**Explosives**  
(moderated by *megalomania*)

*Edit those messages!*

**New Topics:** All registered users may post new topics in this forum.  
**Replies:** Any visitors (including unregistered) may post replies in this forum.

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<td>gamma-butyrolactone</td>
<td>poison</td>
<td>1</td>
<td>July 28, 1999</td>
</tr>
<tr>
<td>what kind of gas?</td>
<td>sharky</td>
<td>3</td>
<td>July 28, 1999</td>
</tr>
</tbody>
</table>

All times are ET (US).

Hop to:

An Open Thread.
A Closed thread - no new replies accepted.

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I was trying to make nitric acid from distilling sulfuric acid and potassium nitrate. I heated it but nothing happened so after about five minutes I said screw it and dumped the H2SO4/p.n. mixture down the sink.
I heard a distinct hissing sound and brown/red gas started coming out.
I assume it was nitrogen dioxide, but are there any other possibilities as to what this was?

If you had something to distill with like a glass tube with like some swirls in it and a glass end plug just put one end into the end plug and one end into another glass jar and you could of made nitric im pretty sure the gas was nitric acid but use all glass setup like mega said before cuz nitric don't like rubber or cork. Oh yeah it wasn't smart to dump it down your sink you could burn holes threw the piping 😊. I hope this helped.

The gas was nitrogen dioxide. Try this method of making nitric acid. Place two parts by volume (teaspoon, tablespoon, etc) of any purified nitrate mineral (potassium nitrate, sodium nitrate, etc.) in a clean narrow necked glass bottle or jug. Add one part by volume concentrated sulfuric acid to the nitrate compound. Do not fill the bottle or jug more than a 1/4 way full. Swirl the bottle gently to make sure the sulfuric acid has mix with the nitrate compound. Obtain another narrow necked glass bottle or jug the same size and tape (with masking or electrical tape) the two bottles or jugs together at the mouths of the bottles or jugs. Be sure that the mouths of the bottles or jugs are flush against each other and that there are no air spaces. Support the bottles or jugs on rocks or cans so that the
empty receiving bottle or jug is slightly at a lower angle but not so much that the mixture from the bottle will run into the receiving bottle or jug. Build a fire in a pot or frying pan. Gently heat the bottle or jug containing the mixture by moving the fire in and out from under it. As red fumes (Nitrogen Dioxide) begin to appear and move into the receiving bottle or jug, pour cold ice water over the receiving bottle or jug. Nitric acid will begin to form in the receiving bottle or jug. Do not overheat or wet the bottle or jug containing the mixture or it may shatter. Continue the process until no more red fumes continue to form in the bottle or jug containing the mixture. Remove the tape from the bottles or jugs by holding them together at the neckes being careful not to spill the remaining mixture into the nitric acid. Store nitric acid with in a dark cool place in a glass container with a acid resistance cap. Note: This Nitric acid is highly concentrated and is suitable for the preparation of nearly all explosives requiring a high nitric acid concentration including RDX and PETN. But for one wishing to use it to make RDX or PETN, add a little urea or 45-0-0 fertilizer to the acid and blow dry air over it until the acid loses its red tint.

---

**megalomania**  
Administrator

posted July 28, 1999 12:10 PM

It is OK to dump concentrated acid down the drain as long as you do so with large volumes of water, ie run the tap and slowly pour it out.

-------------

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

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Administrative Options: Close Topic | Archive/Move | Delete Topic

HOP TO:

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: gamma-butyrolactone</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison Frequent Poster</td>
<td>Does anybody know how to make gamma-butyrolactone? -pois</td>
</tr>
<tr>
<td>megalomania Administrator</td>
<td>This is from a post on alt.drugs.chemistry. You can react acetylene and formaldehyde; see Chem. Ing. Technik, 1950 p. 365. Or Chem. Eng., v 58 p 176 (1951). It can also be prepared from ethylene chlorohydrin, glutaric acid, hydroxybutyric acid solns, tetrahydrofuran or vinylacetic acid. See Organic Chemistry (Van Nostrand, New York, 2nd ed. 1951). The most recent reference I have can be found in the Journal of Organic Chemistry v. 45 p. 1320 (1980). I'll have to see if I can get those refs... There is not much on the internet about GBL because everybody still thinks it can be had easily.</td>
</tr>
</tbody>
</table>

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Would anyone suggest any books on the more advanced aspects of chemistry?

----------
ezekiel@cannabismail.com
"Hitler bad, explosions good"

---

There are so many, and there names mean little to me. Any university worthy of the name will have and entire shelf or two of them. If you are looking for modern methodology, go for a newer book, such as Advanced Organic Chemistry, Inorganic Techniques, they all tend to have names like that. Even the old books (1950 down to the 18th century) are real good if you want to know how to make simple chemicals in the lab. They will not help you on modern practices of chemistry. I like The Chemical Technicians Ready Reference Handbook, lots of rare lab procedures. If you have only a public library, the books will probably be written for middle school children from the 70's.

----------

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---
To turn an ordinary firecracker into a mini-bomb: Roll the firecracker in glue and then roll it in BB's and let dry on a piece of wax paper.

Works even better with M-80's and Cherry Bombs.

Fish hooks can also be glued or affixed to pyrotechnic devices. These are lit and thrown on the victim's clothing.

Better yet, a small pipe filled with RDX, then put in another large pipe of lead shot and napalm... Explosion, + shrapnel, with stickey burning petrol just to top it off. As was suggested you could then put fish hooks on the outer pipe, so it would then stick to them. Just think about it...

--------------------

ezekei@cannabismail.com
"Hitler bad, explosions good"
Yeah, I get ya but I was just elaborating on it a little further. I do indeed like the M-80 + BB idea but then it inspired the RDX/napalm/nail bomb idea. sorry for the confusion

----------

eze@kiel@cannabismail.com
"Hitler bad, explosions good"

IP: Logged
The technical name for this is type of device is a hypergolic chemical reaction.

This is a time delayed fire-starter made form an easy to obtain wood treatment oil called LINSEED OIL. It can be fond in any hardware store.

Rags soaked with this oil are known to spontaneously combust when they are confined in a container like an open-topped coffee can. The temperatures often reach 1100 degrees in the bottom of the can.

If the arsonist were to put linseed soaked rags in a coffee can, then add some wadded up newspaper on top of that, a fire is almost guaranteed to erupt.

Fire investigators know all about the hazards of Linseed oil and probably would rule the fire an accident.

Note: The coffee can must NOT have a cover on it. Air is ALWAYS needed to promote a fire.

killer_elite@my-Deja.com

That is pretty cool. About how long does it take for the rags to combust? does it take seconds? minutes? hours?

------------------

Death is only a begining.

It takes a few hours for the reaction to take place.
A better and much more powerful self igniting fire starter would be to mix equal amounts of calcium hypochlorite (HTH granular swimming pool chlorinator) with brake fluid. This reaction can take place within 5-10 seconds on sunny days and about 30 seconds to a minute at night. It's best to mix them quickly as possible because I had the reaction take place as fast as 3 seconds. Anyway, when the reaction takes place, it will smoke then suddenly give off a very hot red flame.

Straight from US-Army "Unconventional Warfare Devices and Techniques - Incendiaries"
Technical Manual 31-201-1 ; page 131-142, Spontaneous Combustion
It all boils down to:
Mix 1/3 pint of boiled/raw linseed oil, safflower oil or tung oil with
1/2 teaspoon of Cobalt drier and 2 teaspoons of lead drier.
Thoroughly mix for one minute. This can be stored for about one week in an air-tight container. Add this to
1 pint of cotton waste, 3 pints of cotton batting, 1 pint of sawdust or 1 pint of kapok.
Saturate the combustible material (cotton, etc) with the oil by kneading, pulling and balling with the hands.
Put it into a 1 gallon container which has a hole cut in at the bottom center (about 1-2 inches in diameter). When packing the stuff in, put a stick (1.5 inches diameter) over the hole. 

\ /  
| | s | |  
|ooo|t|ooo|  
|ooo|i|ooo| like this (I hate ASCII)  
|ooo|c|ooo|  
[___][k][___] ooo=cotton or sawdust or...
^  

hole

Pack the stuff around the stick so that it fills 1/3 to 1/2 of the container after hand pressure is removed. Remove the stick. Ready.

The device is placed at the target on a flat surface with one edge propped up to allow ventilation. Do not cover open top of container!

Temperature(°F) Ignition Time(hours)
60-70 1-2
40-60 2-4
30-40 4-10

This is only approximate, try it out before.
If you add fire fudge (sugar-chlorate) delay time is reduced to about 1/2-1 hour at 70°F. SC-Devices can be improvised by stuffing impregnated combustible material into a pocket of any of the following garments: coat, lab coat, pants, etc. The combustible material stuffed in the pocket should be below the top of the pocket and should not be packed to tight.

If you want to know how to make the driers or want some nice pictures for this shit, get yourself TM 31-201-1 from some web publisher. It shouldn`t cost more than $5.

---

**poison**
Frequent Poster

posted August 01, 1999 09:53 PM

Here is another good one well in my opinion it is its called Dimanganheptoxide its nasty looking stuff and spontaneously burst out in flames when it comes in contact with any organic material, naphta, wood, your fingers well there s a little about it now here to make it! Add concentrated sulphuric acid to Potassium permanganate and wait some time. You should be left with some green gloop there its done have fun.

-pois

---

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Sodium chlorate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ezekiel</strong></td>
<td>posted August 03, 1999 11:42 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>How does NaClO3 compare with potassium clorate and potassium nitrate? Does anybody know its solubility in water? Oh, and any tests to see how pure it is.</td>
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<td>--------------------------------------------------</td>
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<tr>
<td></td>
<td><strong><a href="mailto:ezekiel@cannabismail.com">ezekiel@cannabismail.com</a></strong></td>
</tr>
<tr>
<td></td>
<td>&quot;Hitler bad, explosions good&quot;</td>
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<thead>
<tr>
<th>Author</th>
<th>Topic: Sodium chlorate</th>
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</thead>
<tbody>
<tr>
<td><strong>Saiyan Knight</strong></td>
<td>posted August 03, 1999 11:19 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Sodium chlorate is more hygroscopic(meaning that it absorbs water from the air) than potassium chlorate. Also the two chlorate salts are a more powerful oxidizer than potassium nitrate and, sodium chlorate and potassium chlorate are salts of chloric acid while potassium nitrate is a salt of nitric acid. Also I don't know the solubility of sodium chlorate but I do know that it is slightly soluble in boiling water.</td>
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<thead>
<tr>
<th>Author</th>
<th>Topic: Sodium chlorate</th>
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<tbody>
<tr>
<td><strong>Survivor</strong></td>
<td>posted August 04, 1999 06:25 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>One gram NaClO3 dissolves in 1 ml cold water and in 0.5 ml boiling water.</td>
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<td>/ Survivor</td>
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<td><strong><a href="mailto:Survivor@netlimit.com">Survivor@netlimit.com</a></strong></td>
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<tr>
<td>Author</td>
<td>Topic: shock sensitive binary primary explosive</td>
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<td>------------------------------------------------</td>
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<tr>
<td>ezekiel</td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted July 31, 1999 01:09 PM</td>
</tr>
<tr>
<td></td>
<td>Are there any binary (two part) explosives or</td>
</tr>
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<td></td>
<td>explosives that are formed instantly by mixing</td>
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<tr>
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<td>two previously stable chemicals, that are</td>
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<td></td>
<td>primary and very shock sensitive?</td>
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<tr>
<td></td>
<td>eze <a href="mailto:kiel@cannabismail.com">kiel@cannabismail.com</a></td>
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<td>&quot;Hitler bad, explosions good&quot;</td>
</tr>
<tr>
<td>Saiyan Knight</td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted August 01, 1999 09:37 AM</td>
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<tr>
<td></td>
<td>If you mix equal amounts of household ammonia</td>
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<td>with iodine crystals (not iodine from the</td>
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<td></td>
<td>drug store but pure anhydrous iodine) and</td>
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<td>wait 30 minutes and filter the brown-purple</td>
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<tr>
<td></td>
<td>crystals, you will have just made nitrogen</td>
</tr>
<tr>
<td></td>
<td>triiodine. This explosive when dry is probably</td>
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<tr>
<td></td>
<td>the most unstable explosive ever. When dry it</td>
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<td></td>
<td>will explode from the following: possibly from</td>
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<td></td>
<td>its own weight, from air currents, from the</td>
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<tr>
<td></td>
<td>touch of a feather (not kidding) from</td>
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<tr>
<td></td>
<td>vibrations, and heat and friction. But when</td>
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<tr>
<td></td>
<td>wet it is kind of stable. Do not store this</td>
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<tr>
<td></td>
<td>explosive and do not attempt to move it</td>
</tr>
<tr>
<td></td>
<td>because it will explode when dry.</td>
</tr>
<tr>
<td>WashuuX</td>
<td>unregistered</td>
</tr>
<tr>
<td></td>
<td>posted August 01, 1999 01:32 PM</td>
</tr>
<tr>
<td></td>
<td>How about the sulfur/phosphor-chlorate mix? Aka</td>
</tr>
<tr>
<td></td>
<td>armstrong explosive, very sensitive to pressure</td>
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<tr>
<td></td>
<td>or shock. Just mix the two components by</td>
</tr>
<tr>
<td></td>
<td>pouring from one sheet of paper to another</td>
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<tr>
<td></td>
<td>several times and hope it doesn`t blow up</td>
</tr>
<tr>
<td></td>
<td>because it just feels like it. Maybe you could</td>
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<tr>
<td></td>
<td>use this for a letter bomb, the two powders</td>
</tr>
<tr>
<td></td>
<td>are mixed upon opening the envelope.</td>
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<tr>
<td>Username</td>
<td>Message</td>
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<td>----------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ezekiel</td>
<td>Thanks for the suggestions, but I was thinking of something involving at least one liquid or gas... sorry I didn't make myself clear. ammonium triiodide would be good but takes too long to form.. armstrongs' needs to be properly mixed.. I think something involving a chemical reaction would be the most probable.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>The ammonium triiodide crystals will not explode that easily when made out of HOUSE HOLD ammonium. There are too many impurities in it to make it that sensitive. Now if you use the industrial strength ammonium then you have some serious shit!</td>
</tr>
<tr>
<td>Ezekiel</td>
<td>thanks all, especially ho jo what things do they add to household ammonia ? I would have thought you could extract the ammonia by evaporating it out - any thoughts?</td>
</tr>
<tr>
<td>Ingenx</td>
<td>When sulferic acid and acetone (nail polish remover/ paint stripper) are combined they explode instantly.</td>
</tr>
<tr>
<td>Poison</td>
<td>Woha they do? Then why when making Acetone peroxide they do not explode? does the peroxide prevent it? Im talking about the dimmer version the one that uses sulferic. Becuz all Acetone Peroxide is acetone peroxide and sulferic or hydrochloric acid. -pois</td>
</tr>
<tr>
<td>Username</td>
<td>Time</td>
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<tr>
<td>---------------</td>
<td>---------------------</td>
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</tbody>
</table>
| Ho ju         | August 02, 1999 08:53 PM | If you look on the side of a bottle of ammonium (bought in a store) you will see a mess of stuff other than ammonium. Ammonium is VERY toxic in its pure form. It is excreted by the body after it is made during metabolic activities cause it can kill you when it builds up.  
Death is only a beginning. |
| Ho ju         | August 02, 1999 08:54 PM | Are you sure Igenx, that paint thinner and nail polish remover, when mixed explode? That sounds almost too good to be true. Have you tried it?  
Death is only a beginning. |
| megalomania   | August 03, 1999 06:40 PM | I think, Ho Ju, that Igenx meant acetone is found in paint thinner and nail polish remover. The sulfuric acid would need to be 95-100% in order to cause detonation, it is diluted in acetone peroxide preperation. I have the book by Seymour Lecker called "Deadly Brew" a Paladin Press book. It's just lists chemicals that explode on contact with sulfuric and/or nitric acid. i shall post em sometime.  
Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania) |
| poison        | August 03, 1999 11:05 PM | Cool is there any delay before the explosion? How powerful is it? Ill be looking for thos posts not emga 😥-pois |

IP: Logged
"Deadly Brew" can be found [here](http://www.survivor.com/deadlybrew).

---

/ Survivor
Survivor@netlimit.com

---

Nitrochem
A New Voice

Try mixing a reducing material (sulfur, crushed napthalene, even AP) with potassium permanganate. This mixture is NOT stable so be careful (using KMnO4+S+powdered Al is actually flash powder). Then add a few drops of conc H2SO4. This liberates oxygen from the permanganate and causes more than enough heat to start an explosive reaction.

---

Washuu X
unregistered

I`m really doubtful about some of the combinations in "Deadly Brew". It reminds me of an older pyro-phile where the author told you that to make explosives, you just should check out a chemical, read the label for the substances it mustn`t be mixed with and mix it with these. Anyone seen him or at least parts of him?

---

All times are ET (US)
WARNING! This manual is for informational purposes only. Neither the author nor the publisher assumes any responsibility for the use or misuse of information in this book.

"During the Cuban Revolutionary War half of the comrades who were assigned the task of producing homemade explosives and devices were either killed or seriously injured."
Ernesto Che Guevara

This manual is intended to demonstrate the ease with which improvised explosive devices can be made from materials commonly used by industry.
I have included fifty common chemicals which will react explosively in contact with sulfuric acid and/or nitric acid. I have selected these
specific chemicals because (1) sulfuric acid and nitric acid are the most common acids in America; (2) they are comparatively safe to handle; (3) the simplicity in designing an explosive device in which one component is acid. This manual is not a chemistry book and does not dwell in depth on the health risks or chemical reaction hazards which accompany these chemicals. Most of them will react violently with many other chemicals than those I describe. These chemicals are all potentially dangerous or they would not have a place in this work. With proper care and safety precautions these chemicals can be used, and are used daily, in normal industrial settings.

2. Safety

In all dangerous situation it is always wise to take all possible precautions. Here are the ten most important safety tips:

1. Never store chemicals for extended periods.
2. Never store chemical combinations for any length of time.
3. Work in a cool, well ventilated area.
4. Keep sources of heat and electricity well away from the work area.
5. Keep the number of people in the work area to an absolute minimum.
6. Keep materials far apart.
7. Use a respirator while working.
8. Use safety goggles.
9. Wear as much protective rubber clothing as possible.
10. Have appropriate fire fighting equipment and large volumes of water close at hand.

3. Acids

Sulfuric acid (H2SO4)

The most highly produced industrial chemical in the U.S.A.

Synonyms: Oil of vitriol, dipping acid.
Description: Colorless or dark brown, oily liquid.
Uses: Manufacture of iron, steel, rayon, film, fertilizers and dye; petroleum refining; etching; alkylation catalyst; electroplating baths; laboratory reagent; nonferrous metallurgy and batteries.
Hazards: Highly toxic, extremely corrosive to body tissue; will cause immediate and severe burns; inhalation of vapor will cause loss of consciousness and severely damaged lung tissue; mists will damage skin, eyes and respiratory tract. Keep cool and dry.
First aid: Inhalation - Move victim to fresh air. Give artificial
respiration of oxygen if victim has stopped breathing. Ingestion - Give large amounts of water if victim is conscious. Do not induce vomiting. Skin contact - Remove contaminated clothing. Wash with large amounts of water. Eye contact - Wash with large amounts of water. SEEK MEDICAL ATTENTION! Fire fighting: Large volumes of water.

Nitric acid (HNO3)

The tenth highest-volume industrial chemical produced in the United States.

Synonyms: Aquas fortis, hydrogen nitrate, azotic acid, engravers acid. Description: Transparent, colorless or yellowish, fuming liquid. Uses: Manufacture of ammonium nitrate fertilizer, dyes, drugs, lacquers, cellulose nitrate, nitrate salts, rubber chemicals and urethanes; ore flotation; metallurgy; photoengraving; etching steel; reprocessing spent nuclear fuel. Hazards: Highly toxic; extremely corrosive to body tissue; will cause immediate and severe burns; will cause extensive damage to the eyes and respiratory system. Keep dry and cool. First aid: Inhalation - Move victim to fresh air. Give artificial respiration of oxygen if victim has stopped breathing. If damage to respiratory system clears up, it will, in all cases, return in a few hours in a more serious form. Ingestion - Give large amounts of water if victim is conscious. Do not induce vomiting. Skin contact - Remove contaminated clothing. Wash with large amounts of water. Eye contact - Wash with large amounts of water. SEEK MEDICAL ATTENTION! Fire fighting: Large volumes of water.

Fire fighting: Large volumes of water.

4. Industrial Chemicals

ACETIC ACID (C2H4O2)

Synonyms: Methane carboxylic acid, vinegar acid, ethanoic acid. Description: Clear colorless liquid, pungent odor. Uses: Manufacture of cellulose acetate, plastics, dyes, insecticides, pharmaceuticals; textile printing. Hazards: Moderately toxic; can damage skin. Do not expose to heat or flame. Fire fighting: CO2, dry chemical, alcohol foam, foam, mist. Will explode on contact with: H2SO4, HNO3
ACETIC ANHYDRIDE (C4H6O3)

Synonyms: Acetyl oxide, acetic oxide, ethanoic anhydride.
Description: Colorless liquid, strong acetic odor
Uses: Manufacture of pharmaceuticals, perfumes, dyes, vinyl acetate. Esterfying agent for food starch.
Hazards: Moderately toxic; can damage skin. Keep cool and dry.
Fire fighting: CO2, dry chemical, alcohol foam.
Will explode on contact with: H2SO4, HNO3

ACETONE CYANOHYDRIN (C4H7NO)

Synonyms: Ol-hydroxy isobutyro nitrile
Description: Colorless liquid.
Uses: Insecticides; Intermediate for organic synthesis.
Hazards: Highly toxic; avoid inhalation. Keep cool.
Fire fighting: CO2, dry chemical, alcohol foam.
Will explode on contact with: H2SO4

ACROLEIN (C3H4O)

Synonyms: Propenal, acrylic aldehyde, allyl aldehyde, acraldehyde.
Description: Yellow or colorless liquid, choking odor.
Uses: Manufacture of resins, pharmaceuticals and polyurethane; herbicide; warning agent in gases.
Hazards: Highly toxic; avoid inhalation or skin contact. Do not expose to heat or flame.
Fire fighting: CO2, dry chemical, alcohol foam.
Will explode on contact with: H2SO4, HNO3

ALLYL ALCOHOL (C3H6O)

Synonyms: Vinyl carbinol
Description: Clear liquid, pungent odor.
Uses: Manufacture of resins, plasticizers, pharmaceuticals; used as a herbicide.
Hazards: Highly toxic; avoid inhalation or skin contact. Dangerous when exposed to heat or flame.
Fire fighting: CO2, alcohol foam, dry chemical.
Will explode on contact with: H2SO4, HNO3

...  

ALLYL CHLORIDE (C3H5Cl)

Synonyms: 3-Chloropropene  
Description: Colorless liquid, pungent odor.  
Uses: Manufacture of varnish, plastic, adhesives, pharmaceuticals.  
Hazards: Highly toxic; avoid inhalation or skin contact. Do not expose to heat or flame; keep well ventilated.  
Fire fighting: CO2, alcohol foam, dry chemical.  
Will explode on contact with: H2SO4, HNO3

...  

ANILINE (C6H7O)

Synonyms: Aminobenzene, aniline oil, phenylamine.  
Description: Colorless oily liquid. Strong odor. Brown when exposed to light.  
Uses: Manufacture of rubber, dyes, photographic chemicals, pharmaceuticals and urethane foam; refining petroleum.  
Hazards: Highly toxic; avoid inhalation and skin contact; keep cool.  
Fire fighting: CO2, alcohol foam, dry chemical.  
Will explode on contact with: H2SO4, HNO3

...  

ANILINE ACETATE (C8H11NO2)

Synonyms: None  
Description: Colorless liquid, becomes dark with age.  
Uses: Organic synthesis.  
Hazards: Highly toxic, avoid inhalation. Keep cool.  
Fire fighting: CO2, alcohol foam, dry chemical.  
Will explode on contact with: H2SO4, HNO3

...  

ANILINE HYDROCHLORIDE (C6H8NCl)

Synonyms: Aniline chloride, aniline salt.  
Description: White or green crystals.  
Uses: Dyeing and printing.
Hazards: Highly toxic, avoid inhalation. Keep away from heat and flame. Fire fighting: Water, CO2, water mist or spray, dry chemical. Will explode on contact with: H2SO4, HNO3

BENZOYL PEROXIDE (C14H10O4)

Synonyms: Lucidol, dibenzoyl peroxide
Description: White granules, tasteless, odorless.
Uses: Bleaching agent for flour, fats, oils and waxes; drying agent for unsaturated oils and pharmaceuticals; production of cheese.
Hazards: Toxic; avoid inhalation; will irritate skin. Do not expose to heat, flame, sparks or strong sunlight; Do not shock.
Fire fighting: Water, foam
Will explode on contact with: H2SO4, HNO3

CARBON DISULFIDE (CS2)

Synonym: Carbon bisulfide
Description: Clear, colorless liquid. Odorless.
Uses: Manufacture of viscose rayon, cellophane and flotation agents.
Hazards: Highly toxic; avoid inhalation or contact with skin. Do not expose to heat, flame, sparks, or friction.
Fire fighting: Water, CO2, dry chemical.
Will explode on contact with: H2SO4

CHLOROSULFONIC ACID (HSO3Cl)

Synonym: Sulfuric chlorohydrin.
Description: Clear or cloudy, colorless or yellow liquid. Sharp odor.
Uses: Manufacture of synthetic detergent, pharmaceuticals, dyes, pesticides, resins and smoke-producing chemicals.
Hazards: Highly toxic; Avoid inhalation and skin contact. Keep away from water.
Fire fighting: None required.
Will explode on contact with: H2SO4, HNO3

CRESOL (C7H8O)
Synonyms: Cresylic acid, cresylol, tricresol.
Description: Can be clear or yellowish or yellow-brown or pink. Liquid.
Uses: Disinfectant; resins; ore flotation; textile scouring agent; synthetic food flavors.
Hazards: Moderately toxic; can burn skin. Keep away from heat and flame.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: HNO3

...
Synonym: Hexahydrophenol
Description: Colorless needles in viscous liquid. Camphorlike odor.
Uses: Manufacture of soap, insecticides, nylon, resins, lacquers, paint, varnish, finishes, removers and polishers.
Hazards: Moderately toxic. Do not expose to heat or flame.
Fire fighting: Alcohol foam, foam, CO2, dry chemical.
Will explode on contact with: HNO3

CYCLOHEXANONE (C6H10O)

Synonyms: Ketohexamethylene, pimelic ketone
Description: Colorless liquid with acetone-like odor.
Uses: Manufacture of woodstains, paint and varnish remover, spot remover and polish; lube-oil additive; solvent; degreasing metals; leveling agent in dyes; organic synthesis.
Hazards: Moderately toxic. Do not expose to heat or flame.
Fire fighting: Alcohol foam, foam, CO2, dry chemical.
Will explode on contact with: HNO3

DIISOBUTYLENE (C8H16)

Synonym: Trimethylpentene
Description: Colorless liquid
Uses: Manufacture of plasticizers and rubber chemicals; alkylation, antioxidants, surfactants, lube-oil additives.
Hazards: Moderately toxic. Keep strictly away from any heat source.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: H2SO4

DIMETHYL KETONE (C3H6O)

Synonyms: Ketone propane, propaneone, acetone.
Description: Colorless liquid, mint-like odor.
Uses: Manufacture of paint, varnish, cellulose acetate; testing vulcanized rubber products; solvent.
Hazards: Moderately toxic, keep away from flame.
Fire fighting: CO2, dry chemical, alcohol foam.
Will explode on contact with: H2SO4, HNO3
EPICHLOROHYDRIN (C3H5ClO)

Synonym: 1-chloro-2,3-epoxypropane
Description: Colorless liquid, chloroform-like odor.
Uses: Manufacture of epoxy and phenoxy resins, glycerol and high wet-strength resins for paper; solvent for cellulose esters and ethers.
Hazards: Highly toxic. Avoid inhalation or skin contact. Do not expose to heat or flame.
Fire fighting: Foam, alcohol foam, CO2, dry chemical.
Will explode on contact with: H2SO4, HNO3

ETHYL ALCOHOL (C2H5OH)

Synonyms: Ethanol, methyl carbinol, spirit of wine, grain alcohol.
Description: Clear colorless liquid, burning taste.
Uses: Manufacture of dyes, pharmaceuticals, detergents, cleansers, cosmetics, antifreeze, beverages and gasohol; solvents, resins, fats and oil.
Hazards: Moderately toxic. Do not expose to heat or flame.
Fire fighting: Alcohol foam, CO2, dry chemical.
Will explode on contact with: HNO3

NOTE: Ethyl alcohol was the 50th highest-volume chemical in the U.S.A. in 1979. Due to the increasing popularity of gasohol it is rapidly becoming more common. It is easily produced from the fermentation of biomass. It is relatively safe to handle, even in the context under discussion.

For more information contact:
Solar Energy Research Institute (SERI)
Document Distribution Service
1617 Cole Boulevard
Golden, Colorado 80401
(303) 231-1158

ETHYLENE CYANOHYDRIN (C3H5NO)

Synonyms: Beta-hydroxypropionitrile, hydracyclo-nitrile, glycol cyanohydrin.
ETHYLENE DIAMINE (C2H8N2)

Synonyms: 1,2-ethane diamine, 1,2-diamino ethane.
Description: Colorless liquid. Ammonia-like odor.
Uses: Manufacture of resins an textile lubricants; solvent; fungicide; antifreeze inhibitor.
Hazards: Highly toxic; avoid inhalation and skin contact. Do not expose to heat or flame.
Fire fighting: CO2, alcohol foam, dry chemical.
Will explode on contact with: H2SO4, HNO3

ETHYLENE GLYCOL (C2H6O2)

Synonyms: 1,2-ethanediol, glycol, ethylene alcohol, glycol alcohol.
Description: Colorless liquid. Sweet taste.
Uses: Manufacture of lacquers, resins, inks, wood stains, adhesives, leather dyes and deicing fluid; antifreeze; coolant;heat transfer agent.
Hazards: Moderately toxic; can irritate skin. Do not expose to flame.
[ Transcriber's note: In my opinion highly toxic, can cause fatal kidney failure even in very small doses, about 100 cc is enough! ]
Fire fighting: Alcohol foam, water, foam, CO2, dry chemical.
Will explode on contact with: H2SO4

ETHYLENE IMINE (C2H5N)

Synonyms: Ethylenimine, dimethylenimine.
Description: White liquid. Pungent odor.
Uses: Manufacturing of pharmaceuticals, adhesives and protective coatings; oil and lubricant refining.
Hazards: Highly toxic; avoid inhalation and skin contact. Do not expose to heat or flame.
Fire fighting: CO2, dry chemical, alcohol foam.
Will explode on contact with: H2SO4, HNO3
HYDRAZINE (N2H4)

Synonyms: Hydrazine base, diamine, hydrazine anhydrous.
Description: Colorless fuming liquid or white crystals.
Uses: Manufacture of drugs, fibers, antioxidants; propellant, plating metal or glass; photographic developers.
Hazards: Highly toxic. Avoid inhalation or skin contact. Keep cool and do not jar.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: HNO3

HYDRIODIC ACID (HI)

Synonym: Hydrogen Iodine
Description: Pale yellow liquid. Colorless gas.
Uses: Manufacture of pharmaceuticals; disinfectants; preparation of iodine salts.
Hazards: Moderately toxic; will damage skin. Keep dry.
Fire fighting: Dry chemical, CO2.
Will explode on contact with: HNO3

HYDROFLUORIC ACID (HF)

Synonyms: Hydrogen fluoride, fluorohydric acid.
Description: Clear, colorless, fuming liquid or gas.
Uses: Manufacture of aluminum, fluorocarbons, gasoline, processing uranium; etching glass; acidizing oil wells.
Hazards: Highly toxic; avoid inhalation or skin contact. Keep cool and dry.
Fire fighting: Dry chemical, CO2.
Will explode on contact with: H2SO4

HYDROGEN PEROXIDE (H2O2)

Synonyms: Hydrogen dioxide, T-stuff.
Description: Colorless heavy liquid. Colorless crystals.
[Transcriber's note: Crystals? I wouldn't say THAT! At least not over its freezing point, -0.4 centigrades.]
Uses: Manufacture of pulp, paper and plasticizers; substitute for chlorine in water treatment; wine distillation; refining and cleaning metals; bleaching of textiles, wood and fur.
Hazards: Highly toxic, avoid inhalation or skin contact. Keep cool. Do not jar or concentrate. [Transcriber's note: Keep away from oxidizing salts, like potassium permanganate, manganese dioxide or even blood(!) This is because hydrogen peroxide easily decompose in the presence of a catalyst.]
Fire fighting: Dry chemical, CO2
Will explode on contact with: H2SO4, HNO3

ISOPRENE (C5H8)

Synonym: 2-methyl-1,3-butadiene
Description: Colorless liquid.
Uses: Manufacture of polyisoprene and butyl rubber.
Hazards: Moderately toxic. Do not expose to heat, flame or sparks.
Fire fighting: CO2, dry chemical.
Will explode on contact with: H2SO4, HNO3

ISOPROPYL ETHER (C6H14O)

Synonyms: 2-isopropoxy propane, oisopropyl ether
Description: Colorless liquid, ethereal odor.
Uses: Manufacture of rubber cement; solvent for oils and dyes; paint and varnish remover.
Hazards: Low toxicity when cool. Keep away from flame or sparks. Do not jar.
Fire fighting: Alcohol foam, CO2, dry chemical.
Will explode on contact with: HNO3

MANGANESE (Mn)

Synonyms: None
Description: Reddish-grey or silvery brittle metallic element.
Uses: Manufacture of steel, aluminum, and non-ferrous alloys; purifying agent in metal production.
Hazards: Highly toxic; avoid inhalation or skin contact. Do not expose to flame. Keep dry.
Fire fighting: Special dry chemical.
MESITYL OXIDE (C6H10O)

Synonyms: 4-methyl-3-penten-2-one
Description: Oily, colorless liquid. Honey-like odor.
Uses: Manufacture of methyl isobutyl ketone; solvent; ore flotation; insect repellent; paint and varnish remover.
Hazards: Moderately toxic; avoid skin contact. Do not expose to heat or flame.
Fire fighting: Alcohol foam, CO2, dry chemical
Will explode on contact with: H2SO4, HNO3

METHYL CYANIDE (C2H3N)

Synonyms: Ethanen itrile, acetonitrile.
Description: Colorless liquid. Aromatic odor.
Uses: Manufacture of pharmaceuticals, vegetable oils and hydrocarbons; solvent.
Hazards: Moderately toxic. Keep cool and dry.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: H2SO4

NITROBENZENE (C6H5NO2)

Synonyms: Oil of mirbane, nitrobenzol, mononitrobenzene.
Description: Bright yellow crystals or yellow oily liquid. Almond-like odor.
Uses: Manufacture of aniline, metal polish, shoe polish, benzidine and quinoline; solvent for cellulose ethers.
Hazards: Moderately toxic. Do not expose to heat or flame. Do not jar.
Fire fighting: Water, foam, CO2, dry chemical
Will explode on contact with: HNO3

PERCHLORIC ACID (HClO4)

Synonyms: None
Description: Colorless fuming liquid.
Uses: Manufacture of esters; electropolishing; deposition of lead.
Hazards: Highly toxic; avoid inhalation or skin contact. Keep cool. Do not jar.
Fire fighting: Water, foam.
Will explode on contact with: H2SO4

PHENYL ETHYLENE (C8H8)

Synonyms: Vinyl benzene, styrene (monomer), cinnamene.
Description: Colorless oily liquid.
Uses: Manufacture of a wide variety of resins and protective coatings.
Hazards: Moderately toxic; can harm skin. Do not expose to heat or flame.
Fire fighting: Foam, CO2, dry chemical
Will explode on contact with: H2SO4

PHOSPHOROUS TRICHLORIDE (PCl3)

Synonyms: Phosphorus chloride
Description: Clear colorless fuming liquid.
Uses: Manufacture of pesticides, gasoline additives, dye stuffs and plasticizers; used as a chlorinating agent and as a textile finishing agent.
Hazards: Highly toxic; can damage skin. Keep cool and dry.
Fire fighting: CO2, dry chemical
Will explode on contact with: HNO3

PARA-PHTALIC ACID (C8H6O4)

Synonyms: Benzene dicarboxylic acid, TPA terephtalic acid.
Description: White crystalline needles.
Uses: Manufacture of resins, fibers and films; additive to poultry feed; reagent for alkali in wool.
Hazards: Moderately toxic; can damage skin. Do not expose to heat or flame.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: HNO3

PHTALIC ANHYDRIDE (C8H4O3)
Synonym: Phtalandione  
Description: White crystalline needles. Mild odor.  
Uses: Manufacture of resins, plasticizers, dyes, chlorinated products, pharmaceuticals and insecticides.  
Hazards: Moderately toxic. Do not expose to flame.  
Fire fighting: CO2, dry chemical.  
Will explode on contact with: HNO3

BETA-PROPIOLACTONE (C3H4O2)

Synonyms: None  
Description: Clear liquid, pungent odor.  
Uses: Disinfectant, vapor sterilant and organic synthesis.  
Hazards: Highly toxic; avoid inhalation or skin contact. Avoid open flame.  
Fire fighting: Alcohol foam.  
Will explode on contact with: H2SO4, HNO3

PROPYLENE OXIDE (C3H6O)

Synonyms: 1,2-epoxypropane, propane oxide, methyl oxirane.  
Description: Colorless liquid. Ethereal odor.  
Uses: Manufacture of urethane foams; detergents, lubricants, solvents, fumigants and surfactants.  
Hazards: Moderately toxic. Do not expose to heat or flame.  
Fire fighting: Alcohol foam, CO2, dry chemical.  
Will explode on contact with: H2SO4

PYRIDINE (C5H5N)

Synonyms: None  
Description: Colorless liquid. Sharp odor. Burning taste.  
Uses: Manufacture of vitamins, drugs, solvents and antifreeze; waterproofing, denaturating alcohol and textile dyeing; fungicide.  
Hazards: Moderately toxic. Do not expose to heat or flame.  
Fire fighting: Alcohol foam.  
Will explode on contact with: H2SO4, HNO3

SILVER PERMANGANATE (AgMnO4)
Synonyms: None
Description: Violet crystalline powder
Uses: Manufacture of gas masks. Used as an antiseptic.
Hazards: Moderately toxic. Can miscolor skin. Do not expose to heat or flame. Do not jar.
Fire fighting: Water
Will explode on contact with: H2SO4

TITANIUM (Ti)

Synonyms: None
Description: Dark gray powder or white lustrous metal.
Uses: Manufacture of alloys for a variety of special applications; X-ray tube target; electrodes in chlorine batteries.
Hazards: Non-toxic. Do not expose to heat or flame.
Fire fighting: Smother with sand, powdered talc or G-1 powder.
Will explode on contact with: HNO3

O-TOLUIDINE (C7H5N)

Synonyms: o-methylaniline, o-aminotoluene.
Description: Colorless liquid, red or brown if exposed to air.
Uses: Manufacture of textile printing dyes, vulcanization accelerator, organic synthesis.
Hazards: Highly toxic; avoid inhalation or skin contact. Keep cool.
Fire fighting: Foam, CO2, dry chemical.
Will explode on contact with: HNO3

VINYL ACETATE (C4H6O2)

Synonyms: None
Description: Colorless liquid. Becomes solid on exposure to light.
Uses: Manufacture of latex paint, paper coatings, adhesives, textile finishing, safety glass and resins.
Hazards: Moderately toxic. Keep away from heat or flame.
Fire fighting: Alcohol foam, CO2, dry chemical.
Will explode on contact with: H2SO4, HNO3
VINYL CYANIDE (C₃H₃N)

Synonyms: Acrylonitrile, propane nitrile
Description: Colorless liquid, mild odor.
Uses: Manufacture of acrylic fibers, nitrile rubber, wood pulp and synthetic soil blocks; fubigation of grains.
Hazards: Highly toxic; avoid inhalation and skin contact. Keep cool.
Fire fighting: CO₂, dry chemical, alcohol foam.
Will explode on contact with: H₂SO₄, HNO₃

VINYLIDENE CHLORIDE

Synonym: 1,1 dichloro ethylene.
Description: Colorless liquid.
Uses: Manufacture of Saran Wrap, adhesives, and synthetic fibers.
Hazards: Highly toxic; avoid inhalation. Will damage skin. Do not expose to heat or flame.
Fire fighting: Alcohol foam, CO₂, dry chemical.
Will explode on contact with: HNO₃

5. Devices

Single bottle bomb I:
1. Fill a bottle 90 percent full of acid. Cap securely.
2. Fill a small sack (jute or other sturdy material) with industrial chemical.
3. Tape the package to the side of the bottle. When the bottle is broken the acid will destroy the sack and come into contact with the industrial chemical. Detonation will occur. It is not recommended to throw this device Molotov cocktail-style. It is best dropped off a roof onto enemy troops or vehicles.

Single bottle bomb II:
1. Fill a bottle 90 percent full of acid. Cap securely.
2. Partially cut, thereby weakening it, the glass with a glass cutter.
3. Suspend the bottle with a cord, a minimum of seven feet above a cement or tile floor.
4. Pile industrial chemical on the floor, around but not under the bottle.
5. Attach a cigarette and matches assembly to the cord. The cigarette will eventually ignite the matches. The cord will burn through and the bottle
will drop. When the bottle breaks, the acid comes into contact with the industrial chemical. Detonation will occur.

Double bottle bomb I

1. Fill a bottle 90 percent full of acid. Cap securely.
2. Fill a second bottle 90 percent full of industrial chemical. Cap securely.
3. Join the two bottles with heavy tape.
4. Place a small explosive charge between, and in contact with both bottles.
5. Detonate the explosive charge in any convenient manner. However, be sure to use an explosive charge that will break both bottles, but not scatter the contents. One number eight blasting cap will usually suffice. The charge will break both bottles. The acid and the industrial chemical will come into contact. Detonation will occur.

Double bottle bomb II

1. Fill a bottle 90 percent full of acid. Cap securely.
2. Fill a second bottle 90 percent full of industrial chemical. Cap securely.
3. Join the two bottles with heavy tape.
4. Partially cut the glass of each bottle with a glass cutter.
5. Suspend the bottles with cord, a minimum of seven feet above a cement or tile floor.
6. Attach a cigarette and matches assembly to the cord. The cigarette will eventually ignite the matches. The cord will burn through and the bottles will drop. When the bottles break, the acid comes into contact with the industrial chemical. Detonation will occur.

Jerry Can Bomb

1. Create a large dent in the top of a metal jerry can.
2. Check carefully that in forming the dent, the jerry can is not ruptured.
3. Fill jerry can with industrial chemical.
4. Pour acid directly into the dent. The acid will burn through the metal and come into contact with the industrial chemical. Detonation will occur.

[ Transcriber's notes: The SERI part in the Ethyl Alcohol article is to me unexplainable, I wonder why someone would like to order ten gallons of gasohol? %*) Also: If you want to succeed in making a nice acid bomb, both your acid and your "industrial chemical" must be as concentrated and free from other substances as possible. Otherwise, your device could... ]
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic:  Nitro flash paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted August 04, 1999 01:06 PM</td>
</tr>
</tbody>
</table>
|               | Does anybody know how to make Nitro flash paper? Its used it magic it's in the book called "Modern chemical magic" does anybody know the manufacturing process of this? It says it can burst into flames with a snap of the fingers how does it do this? How does it get set off. Sorry for all the questions but if you can answer some of them it would be helpful thanks.  
-pois |
| ezekiel       |                          |
| Frequent Poster | posted August 04, 1999 05:13 PM |
|               | It's just nitrated paper (nitro cellulose). It's usually made by dipping it quickly (30 seconds) into a strong mix of nitric and sulphuric acids.  
--
  
edzekiel@cannabismail.com  
"Hitler bad, explosions good" |
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Primers</th>
<th>How do I get the explosives out the primers they are out of a 12 gauge they are in little brass shell so to put it?</th>
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<td>How do I get the explosives out the primers they are out of a 12 gauge they are in little brass shell so to put it?</td>
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<tr>
<td>Saiyan Knight</td>
<td></td>
<td>Soak the primers in acetone for about 30 minutes, while stirring occasionally. Then let them set over night. In the morning, the acetone should have evaporated with a musturd colored solid at the bottom of the container(Lead Stypnate). GENTLY, scrape out the solid at the bottom of the container and store in a waterproof container. Avoid older primers as the contain potassium chlorate compositions which are more sensitive to friction and shock.</td>
</tr>
</tbody>
</table>
### Topic: Simple chemical delay

**WashuuX**  
A New Voice  
*posted August 06, 1999 02:44 PM*

Take a plastic straw and glue or tape one end shut. Fill in some black powder or fire fudge or something like that. This is sorta like the booster in a blasting cap, it initiated by KMnO₄, our lovely permanganate. Just fill in a bit to cover the black powder. Now stuff in a cancerette filter and when you`re ready for action, squirt in some glycerine, using a syringe. Delay is about 2 minutes, but you can replace the filter with other barriers. If it`s too cold, the glycerine will become pretty thick and viscous and the delay won`t work.

**Ho ju**  
Frequent Poster  
*posted August 06, 1999 09:00 PM*

Could someone tell me how to make a fuse, a SIMPLE fuse. People tell me to just buy them but they are damn hard to find in New York.

------------------

Death is only a beginning.

**Igenx**  
Frequent Poster  
*posted August 07, 1999 01:33 AM*

You can buy fuse online from Iowa Pyrotechnic Supply. They deliver everywhere.
I (will) have something on very very simple fuses on my site, but for now I'll just tell you.
(NB I worked this out myself)
get some of sodium chlorate weedkiller (from hardware or garden stores), it should be about 50% sodium chlorate - it will say on the pack.
Put 25 cm$^3$ in 50 ml of water. stir a little, then filter through 3-5 layers of toilet paper or kitchen roll. keep the filtrate (you can reuse this or dip paper/string in it) and separate the filter paper into sheets of 1 or 2. leave them to dry. when they are dry, scrape off the residue (this is a fire retardant) then you can cut off thin long strips and use as a medium pace fuse, or roll up into tight tubes to make quick fuse (the more turns and the tighter the faster it will burn).
If you want to make string fuse, clean and rinse the string with hot water, then rub it in your fingers so that it frays all along. Soak (for about an hour) in the filtrate solution then take out and dry. you can then re-tighten the string and use as slow to medium pace fuse (depending on how long it was soaked for and how loose it is). hope that helped.

--------------

_ _

**ezekiel@cannabismail.com**
"Hitler bad, explosions good"

IP: Logged
What is 100% White Nitric Acid used for typically in industry?

If you are trying to make RDX or PETN, you do not need 100% white nitric acid. All you need is strong fuming nitric acid. In order to make this you need about 90% red fuming nitric acid and urea (45-0-0 fertilizer works). Add a little dry urea to the acid and blow dry air over it until it loses its red tint.

Where could you buy nitric acid from? (I think that was actually the real question).
I know there are chemical suppliers, but it is quite pricey (at least at the ones I use).
If anybody knows of a (cheaper) chemical supplier that will sell it to England, please tell.

-----------------

ezeikel@cannabismail.com
"Hitler bad, explosions good"

Nitric acid would be somewhat hard to get in the bulk without a special chemical permit. It would be better to make your nitric acid because nitric acid is mainly sold as a 70% concentration. This is too weak for most nitrations.
Megalomania
Administrator

posted August 07, 1999 05:18 PM

Nitric for individuals is very hard to come by. I just found two chem supply companies the sell 2.5L of ACS grade 70% nitric acid for $25.00 and $44.00 US. That is outrageous! One tactic to keep chemicals away from citizens is to only sell expensive ACS grade. 70% is about as high as you can get without requiring motor freight, $$$$. This is just another reason for me to start my chemical supply company. I could sell tech grade 70% nitric for a tenth of those prices. Any buyers?

-------------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

 Ezekiel
Frequent Poster

posted August 08, 1999 05:16 AM

I suppose orders to England are out...

 RDX
A New Voice

posted August 08, 1999 11:53 AM

I can get a hold of 68% Nitric Acid but I believe it is white in color.

Is this still usable for manufacturing RDX?

 Mosaz
Frequent Poster

posted August 08, 1999 12:17 PM

I'm not sure but I think 68% is not strong enough. The concentration must be > 70%. (i'm not sure ☹️) but another question. Is it possable to make 100% white nitric acid at home?? Is white or red nitric acid used for most high explosives??

 Saiyan Knight
Frequent Poster

posted August 08, 1999 01:40 PM

In order to make RDX or PETN effectively you MUST use 90% or higher strong red fuming nitric acid. Then you add a little dry urea(45-0-0 fertilizer works) to the nitric acid and blow dry air over it untilt it loses its red tint. I tried to make RDX with 70% nitric acid about 10 times and most of the time it didn't work. Sometimes it did work but it was very weak, about as strong as ANFO which explodes up to 15000fps. Military RDX is suppose to explode at 27000-28000 fps
For decades the military constructed hand grenades with grooves cut on the outside of the grenade. They reasoned the grenade would fragment along these grooves. They were wrong. The grenade blew into only 3 or 4 pieces. The grooves needed to be on the inside of the grenade for multiple fragmentation.

The same rule applies for proper pipe bomb fragmentation. The grooves should be filed on the INSIDE of the pipe.

Additional shrapnel may be added by coating the inside of the pipe with glue and then dropping in several packages of BB's. The loose BB's will adhere to the walls. This should be done until none of the inner pipe wall is visible.

This method works much better than simply mixing BB's with the black powder. The pipe usually explodes long before all the black power burns up. Shrapnel mixed with the powder is wasted in this manner.

killer_elite@my-Deja.com
Seems to me it would be easier to make a cardboard tube and glue it to the bottom (just pour lots of glue in and center the tube). The tube would of course be a BB width smaller than the pipe. Just fill the gap between tube and cardboard and you should have saved some time. Then fill the center of the tube with explosive.

Oh, how would one score the inside of a pipe?

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Use a good lathe, or put it in a clamp and use a dremil multi tool or something like it

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ezekiel@cannabismail.com
"Hitler bad, explosions good"
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Primers, Rockets</th>
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<tbody>
<tr>
<td>Pryo Tek</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted August 12, 1999 07:12 AM</td>
</tr>
<tr>
<td></td>
<td>First I have soked 12 gauge primers in Actone 100% over night and nothing happened the actone just wen piss colour! Second What of this as a rocket fule: Double base gun pouder soket in actone and Ammouonum Nitrate all soket in acetone and packed in shell for rocket engine? 😊</td>
</tr>
<tr>
<td>Saiyan Knight</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted August 12, 1999 08:34 AM</td>
</tr>
<tr>
<td></td>
<td>You have to stirr the primers occasionaly and then let them sit over night and let the acetone evaporate COMPLETELY. The piss color stuff was the explosive Lead Styphate.</td>
</tr>
</tbody>
</table>

All times are ET (US)
i'm new to the world of explosives......i was wondering a easy way to make blackpowder and flash powder,i dont have access to a bunch of chemicals and shit so im at a disadvantage..........also i was wondering on how to make something "POWERFUL" but not so jittery somethingthat i have to tip toe around,no contact crystals or any of that,something a begineer could work with........please could somebody also post household alternatives to a lot of these chemicals you guys are talking about..................how do you EASILY MAKE A RED SMOKE BOMB that lets off lots of smoke{and i mean lots in a little amount}?thanks a lot for your help ; }

It seems like each year more and more useful chemicals dry up off the OTC (over the counter) market. I have recognized this problem a long time ago and have begun researching every old method of chemical synthesis out there. This is a very large and difficult task however. Sometimes you just have to buy chemicals from a lab company, but they are a dying breed. I remain confident that any chemical can be made even with few materials. For now you just have to do the legwork, go to the library, always look at the contents of chemicals in the store, and keep an eye out for sites like this. The druggies have made greater strides in improvised chemicals because they get banned more, check out http://hive.lycaeum.org/ for some of the precursors and locations of them. They are more concerned with making meth than anything else, but they have a few useful posts now and again.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Poric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zanx</strong></td>
<td>Recently I made some picric acid and I was trying to dry it out on some paper on a desk. On the edge of the desk there was a piece of aluminum going along the side. I found out that some of the wet paper with the picric acid on it was touching the aluminum. It corroded the metal and made some weird brown crystals. I know that you're supposed to keep picric acid away from metal but I didn't notice that the edge of the paper was touching the aluminum. I read somewhere that picric acid makes dangerously sensitive picrates when it reacts with metal. I assume that is what happened? What I would like to know, is how sensitive the brown crystals are and what to safely do with them. Thanks for any help.</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td><strong>Saiyan Knight</strong></td>
<td>I would say that the crystals are pretty sensitive and dangerous to handle because Lead Picrate(a primary explosive) which is a salt of picric acid can sometimes explode from its own weight when dry if not spread out.</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
</tbody>
</table>
| **Ho ju**        | Zanx, If you are thinking of making shock explosives try making Ammonium Triiodide Crystals. With house hold ammonium used to make this the crystals they are pretty safe. I have made them before out of house hold ammonium and they needed a good jolt to make them explode.  

------------------------

Death is only a begining. |
| Frequent Poster       | ![Image](image3.png)                                               |
If your ammonium triiodide crystals took a jolt to explode, they were very very impure. Pure crystals can explode from a fly landing on them (obviously only on a hot day). Were they more/less powerful than one would expect?

---

ezekiel@cannabismail.com
"Hitler bad, explosions good"

---

Don't even think that ammonium triiodide is anywhere near as safe as any other touch sensitive explosive. As far as detonators go, acetone peroxide is table salt compared to ammonium triiodide. There are many stable picrate salts, picric acid itself is quite stable unless it is very old. Ammonium triiodide is very dangerous, it is also very expensive with the price of iodine skyrocketing. Iodide is very rare now that it is a watched chemical, many drug stores do not even carry iodine tinctures, let alone trying to buy some from a chemical supply house. If you make ammonium triiodide, I hope it is as a demonstration set up well away from anything on the filter it dries on.

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---

I'm sorry if I didn't make myself clear about the picric acid. I wasn't trying to make a separate explosive from picric acid that was sentient. The extra, brown crystals were an accident when some of the acid corroded some aluminum. I just wanted to know if anybody knew how sentient they were, so I could safely dispose of them. I don't really want to just leave them on my desk. If it is an explosive, and if it is really sentient or dangerouse, then that would be nice to know so I can do somethin with it. Thankz
I would dispose of the brown crystals by saturating them with water and then GENTLY scraping them off the desk and wash them down the sink with water. The reason why I say to dispose of the brown crystals is because metal picrates (metal salts of picric acid) can sometimes explode from their own weight when dry if not spread out before they completely dry, especially lead picrate.

Ok, cool. Thankz

Well you are going to like this...

Aluminum picrate can be either \([C_6H_2(NO_2)_3O]_3Al\) which fuses at 100 °C and explodes at even greater temperatures. It has an impact sensitivity even better than TNT (very stable). The hydrates are even more stable than that.

Another form \([C_6H_2(NO_2)_3O]_2AlOH \times 7H_2O\) merly decomposes on heating over 80 °C.

You will be fine just washing up the crystals with lots of water.

--------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Thats nice to know, thanks for the help.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Pipe &amp; fire Bomb Designs (book)</th>
</tr>
</thead>
<tbody>
<tr>
<td>killer_elite</td>
<td>posted August 10, 1999 10:37 PM</td>
</tr>
</tbody>
</table>

If you guys can still find a copy of PIPE & FIRE BOMB DESIGNS by Lee Scott for gods sake buy it! This book is the bible of bomb making. No bullshit, no hard to find chemicals, no padding. It has over 30 pipe bomb blueprints, 25 fire bomb blueprints, 8 miscellaneous fire starters and pocket bombs, 8 homemade detonators and ignitors, 16 clock and timer hook-up switches. I haven't seen any of this stuff on the net. The FBI says this guy is the most ingenious bomb designer they've ever encountered.

I wrote the author at Paladin Press and he said that when this book goes out of print on Sep. 1, 1999 he is going to charge $100 for a photocopy to cops; and will no longr sell it to just anyone because of the new laws.

Lee Scott also wrote a book on car bombs. It has about 40 bombs in it--mostly pipe bombs. He also wrote the Magician's Arsenal, the bible of homemade weapons.

d仍ller_elite@my-Deja.com

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Pipe &amp; fire Bomb Designs (book)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saiyan Knight</td>
<td>posted August 12, 1999 08:50 AM</td>
</tr>
</tbody>
</table>

What do you mean if you can still find a copy of this book? There are plenty of other press catalogs that sell explosive and bomb making books such as this one. This goes for that paladin press thing too, they are not the only one who sell explosive and bomb books. So if they stop selling these kind of books you can always order from other catalogs which sell books like these.

IP: Logged

IP: Logged
I think the real problem is that Paladin Press is also a major publisher of these books. Many of them are Paladin Press originals, so they will go out of print, and going out of print is far worse than not being sold. These books will still be out there in the Library of Congress of all places. They can still be bought and sold, perhaps forever unless some nazi nut offers a buyback to burn em!

-------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
killer_elite
Frequent Poster

posted August 15, 1999 12:47 AM

Mr. Knight,
Yes, I did receive an e-mail from them as well as a letter with about stating on Sept. 1, 1999 all bomb, explosive, and improvised weapons books will go out-of-print. They will gladly send you the list of books if you like. Here's their e-mail address:
www.paladin-press.com
killer_elite@my-Deja.com

IP: Logged

killer_elite
Frequent Poster

posted August 20, 1999 02:15 AM

Delta Press still has a few copies of PIPE & FIRE BOMB DESIGNS.

IP: Logged

ezekiel
Frequent Poster

posted August 21, 1999 01:16 PM

This may be blasphemous or something but couldn't people design their own? I know that obviously a great book is a lot of help but everybody treats this as the end as we know it (whether it is or isn't is another matter). I have never had any sort of book to help me until a couple of weeks ago.

------------------

ezekiel@cannabismail.com
"Hitler bad, explosions good"

IP: Logged

Ho ju
Frequent Poster

posted August 21, 1999 07:02 PM

He has got a good point all. Why can't other people make the books, or compile shit into a massive file or a bunch of smaller ones? Then once you had your little book on file (or an actual book) you could reproduce it and give it to people, or sell it. There is a plethora of information on the internet. Do you think the people that wrote the books had all of the knowledge in there head or do you think they had to look up some stuff?

------------------

Death is only a begining.

IP: Logged

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: DV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>savage</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td>posted August 15, 1999 09:44 AM</td>
<td>![image]</td>
</tr>
<tr>
<td>We all know that the dv (det. velocity) is the rate at which the shockwave passes through the explosive, but how relevant is this if you want to find out how fast the expanding gases are, is it the same thing? or what..</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: DV</th>
</tr>
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<tbody>
<tr>
<td><strong>Saiyan Knight</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>posted August 15, 1999 12:25 PM</td>
<td>![image]</td>
</tr>
<tr>
<td>The speed of the expanding gas is known a brisance, normally called the shattering effect. A more accurate definition of brisance would be the rapidity with which an explosive develops its maximum pressure. A brisant explosive is one in which the maximum pressure is attained so rapidly that the effect is to shatter any material in contact with it and all surrounding material.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: DV</th>
</tr>
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<tbody>
<tr>
<td><strong>savage</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td>posted August 17, 1999 09:27 AM</td>
<td>![image]</td>
</tr>
<tr>
<td>I understand what your saying, but is the dv the same as the gas velocity. I want to know because shrapnel from a bomb will supposedly travel at approx. 75% of the velocity of the explosion. And that seems mighty fast, too fast for me to believe.</td>
<td></td>
</tr>
</tbody>
</table>

IP: Logged

http://theforum.virtualave.net/ubb/Forum1/HTML/000040.html (1 of 3) [12/2/1999 12:59:46 PM]
Saiyan Knight
Frequent Poster

posted August 18, 1999 12:16 PM

I will say yes, DV is the same as the gas velocity and how fast the explosive decomposes because if you make a pipe bomb with bull's eye double based smokeless gun powder and you light it with a fuse, fragments will only travel at 600 fps. But if you take the same pipe and use the same amount of bull's eye and initiate the bull's eye with a number # 8 blasting cap(a blasting cap containing about 2 grams of primary explosive), fragments will travel at 20,000 fps. This is able to be done because of the unique mixture of nitroglycerine in the bull's eye which makes it one of the few smokeless propellants to be detonated as a high explosive once detonated it is about as powerful as millitary TNT (which detonates at about 22,600fps)

IP: Logged

savage
A New Voice

posted August 20, 1999 12:31 AM

If this be true than high explosives truly are in a league of there own, As even the fastest ultra high velocity rounds achieve little over 4000 fps, and they sure make a mess of whatever they hit.

IP: Logged

ezekiel
Frequent Poster

posted August 21, 1999 01:05 PM

Just a note on brissance , the brissance depends on the gas released (mainly how dense it is) so something could release comparatively little gas during detonation but have twice the brissance of another explosive if it let off a very dense gas (but this all depends on the distance the brissance is measured from).

Also , it is hard to say how fast shrapnel will travel due to many things - the shape , size and weight of each piece (and for each piece it will be different) and how much explosive will be used under how much confinement. If you use alot of an explosive the shrapnel can get closer to the Vdet of the explosive , but is is very hard for it to surpass the explosives Vdet (but possible under huge confinement). A very fast piece of shrapnel will go at half of the explosives Vdet.

And a note of bullets - the reason a bullet causes more damage that a piece of shrapnel traveling at the same speed it that bullets are designed to shatter and tear out whatever they hit , they are also aerodynamic so lose little speed . Whereas shrapnel will lose speed quickly and is of a semi random shape (unless you use pre shaped shrapnel - ie nails or ball bearings).

-------------

__
ezekiel@cannabismail.com
"Hitler bad , explosions good"

IP: Logged
In relation to your streamlined comment, would say a 100gr .25 cal bullet have the same ballistic coefficient as a 180gr .30 cal if the shape and density were exactly the same..? (disregard the weights as i realise the weights would chuck it out but if its the same shape and proportionally heavier to fit that shape would it be the same) sorry if this makes no sence to you....but im too dumb to word it any better.

This is probably a stupid question, but if the DV is the same as the speed at which the gases expand, which is the same as brisance, then if you had 2 explosives and one had a higher DV then would it be more brisant than the other one with a lower DV? All the time, some of the time? Or would the brisance depend on the density of the gases like Ezekiel said? In that case, would it mean that the DV is Not the same as brisance? Sorry, I'm a little confused.

alright. DV is teh speed at which the "shockwave" travels. What i mean by shockwave is the actual force of the blast that is created.

Death is only a begining.
This excerpt was taken from the book:

IMPROVISED EXPLOSIVES: How To Make Your Own by Semour Leckler (1985)

The following acids will cause violent reactions when brought into contact with certain materials:

Sulfuric Acid and:
- Potassium permanganate
- Potassium chlorate
- Match heads

Nitric Acid and:
- Turpentine
- Furfural alcohol
- Aniline

Kiler_elite@my-Deja.com

BioHaz  
unregistered

What does sulfuric acid & match heads do?

VeHeMT  
Frequent Poster

Match heads contain (should) potassium chlorate, so when the sulfuric acid and match heads come into contact it will simply cause a fiery reaction in which they ignite.
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Post Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>megalomania</td>
<td>August 18, 1999 05:06 PM</td>
<td>Matches very much do ignite when a drop of &quot;concentrated&quot; acid is placed on them, didn't believe it myself. I looked a bit too close, good thing for safety goggles (never leave home without em).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td>poison</td>
<td>August 18, 1999 05:34 PM</td>
<td>Hmm, I did this just a few minz ago with the matches and all they did is crackle for about 20-30 seconds no fire just a pretty bad odor can some one tell me what was wrong? maybe my acid wasn't pure enough? -pois</td>
</tr>
<tr>
<td>Saiyan Knight</td>
<td>August 18, 1999 10:04 PM</td>
<td>The acid was not pure enough. If the acid was pure enough, it would crackle for about 3-5 second and the match would have burst into flames. I use this method to see if my sulfuric acid is concentrated enough to be used for making explosives instead of taking the time to check it with a hydrometer.</td>
</tr>
<tr>
<td>poison</td>
<td>August 18, 1999 11:20 PM</td>
<td>Thanks.                                                                                               -pois</td>
</tr>
<tr>
<td>Zanx</td>
<td>August 21, 1999 09:12 PM</td>
<td>Would that be strike-anywhere matches or kitchen matches that you test the sulfuric acid with? Thankz</td>
</tr>
<tr>
<td>poison</td>
<td>August 22, 1999 05:12 PM</td>
<td>I used the white kitchen matches.                                                                                                                              -pois</td>
</tr>
</tbody>
</table>
When you mix up a batch of flash powder, do you just mix the two dry ingredients and then light it or do you have to do something else to make it into flash powder?

Death is only a begining.

---

Yeah just mix n light.
-pois

---

What type of aluminum do you use? is it just teh regular shit. German black? or Dark?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

German dark works well try any thing above 400 mesh usually german dark is around 600 so it is much much better.
-pois

---

Well i have a choice of german black which is 600 mesh and is 20 bucks a pound and dark which is 400 mesh and 12 bucks a pound. I am thinking 70% potassium perchlorate and 30% aluminum (the dark 400 mesh.) now should the 70-30 be buy weight or volume?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Nitrogen Dixoide?</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted July 20, 1999 04:29 PM</td>
</tr>
<tr>
<td></td>
<td>Does any one know how to make Nitrogen Dixoide? Im not sure if i spelled it right its used to concentrate nitric acid. Thanks -pois</td>
</tr>
<tr>
<td>IP: Logged</td>
<td></td>
</tr>
<tr>
<td>poison</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted July 20, 1999 05:02 PM</td>
</tr>
<tr>
<td></td>
<td>I also need sodium nitrite NaNO2 does any body know how to make it? Or at least some where to buy it?</td>
</tr>
<tr>
<td>IP: Logged</td>
<td></td>
</tr>
<tr>
<td>megalomania</td>
<td></td>
</tr>
<tr>
<td>Administrator</td>
<td>posted July 20, 1999 08:40 PM</td>
</tr>
<tr>
<td></td>
<td>There are a few ways to go about concentrating nitric acid. These do not involve what you want, but they do the same thing. Adding sodium nitrate to concentrated sulfuric acid and heating to distill it will break down the nitrate into highly concentrated nitric acid. This requires an all glass setup as the nitric acid is quite destructive towards rubber and cork. You can also concentrate existing nitric acid by adding it to concentrated sulfuric acid and distilling. Getting nitrogen dioxoide gas is about the best way to concentrate nitric acid because it converts any water in the acid to nitric acid on contact, and it can create fuming acid which can not be purchased without including your soul in the deal. Heating nitric acid will cause it to decompose into nitrogen dioxide, the higher the concentration of the acid, the easier it is to decompose. Making nitroglycerine by adding glycerine to mixed acids of nitric and sulfuric will decompose, not explode, into a whole lot of nitrogen dioxide gas if allowed to go over 30 °C. A simple method of preparing nitrogen dioxide in the lab is as follows: Prepare an acidic ferrous sulfate solution by adding 13.5 g of ferrous sulfate·7H₂O (this a hydrated form, it only affects the weight) to 36 mL of water and add 4 mL of concentrated...</td>
</tr>
</tbody>
</table>
sulfuric acid. Adding 2.5 g of sodium sulfite (that's NaNO₂ not nitrate NaNO₃) and shaking vigorously will produce nitrogen monoxide, NO, gas. Upon contact with air, nitrogen dioxide will be formed. Making this in a flask, say, you would have to have some kind of air pump, even blowing on the end of tube, flow into the flask, then lead that gas into the acid. This volume will make about 600 mL of NO gas. I would not make too much at once as it may not react fully with the air. There are probably other ways that I am forgetting. You can make your own ferrous sulfate by reacting iron metal with concentrated sulfuric acid. And sodium nitrate can be made by decomposing sodium nitrate by heating it to between 380-400 °C.

---------------------
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poison  
Frequent Poster

posted July 21, 1999 04:02 PM

Can i use ammonium nitrate instead of sodium nitrate in the distalation method?

sharky  
unregistered

posted July 21, 1999 06:31 PM

While on the subject of acids, I went to the local hardware store in search of Sulfuric acid... I asked an attendant for a very strong cleaner that contained Sulfuric acid.... He brought me MURAITIC acid. I didn't even look at any lables and bought a gallon of it and went home. Then i read on the back that it was hydrochloric acid.... What is the brand name of the product that contains SULFURIC acid and what is it used for? Next time mabe I can just ask him for the brandname.... thanks
Hydrochloric acid is sold in hardware stores for a cleaner of grout from newly made brick or to clean swimming pools. He probably heard "cleaner" and got that acid. Sulfuric is sold as a drain unclogger. Both the HCl and the sulfuric acid are generic products, very rarely do they have a "brand" name so to speak. I have here a gallon of Zip Strip brand hydrochloric acid, they make a lot of solvents and cleaners mostly for painting. And according to my little red book from my great chemical survey (damn I still gotta finish that...) there are 3 brands, 2 of which are Knockout and Rooto Drain Opener. I didn't write down the 3rd because they were alot more expensive. I have here $3.99 a quart for Knockout, $6.29 a quart for Rooto, and $9.99 for 2 quarts for Rooto. Thats 93% stuff and all in US dollars. Tell me, what are the prices in your neck of the woods? Oh, and don't let that fool monkey at the hardware store sell you drain opener that is liquid sodium hydroxide because those companies make that as well.

-------------
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---

**megalomania**  
Administrator

**posted July 22, 1999 02:03 AM**  
-------------

For poison...probably just missed ya 😊

Yes, you can use ammonium nitrate, the "nitrate" is the important part.

-------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---

**ezekiel**  
Frequent Poster

**posted July 22, 1999 05:16 PM**  
-------------

I buy 35% hydrochloric for £1.50 a litre, and 100% sulphuric for £1.20 a litre (sorry, don't know what that is in dollars)

---

**sharky**  
unregistered

**posted July 22, 1999 05:18 PM**  
-------------

In answer to your question about prices, I got the MURAITIC acid for $2.50 something for a gallon jug of it. As for the SULFURIC i am going back tonight to try to find it.

sharky
<table>
<thead>
<tr>
<th>Username</th>
<th>Date/Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td>July 22, 1999 07:35 PM</td>
<td>The band name for the sulfuric i got is called &quot;Drain Kleen&quot; i hope this helps PS: I found it at ace hardware.</td>
</tr>
<tr>
<td>shary</td>
<td>July 22, 1999 10:45 PM</td>
<td>I went to ace and bought some sulfuric acid.... It said on the side that it contained &quot;concentrated and inhibited sulfuric acid&quot; and then it said it contained sulfuric acid and water. It was called H-T Drain cleaner.... I got it and took it home, when I opened it, the liquid was a dark brownish black like motor oil.... What is wrong with it?? thanks</td>
</tr>
<tr>
<td>poison</td>
<td>July 25, 1999 07:52 PM</td>
<td>You can try and filter it i know it works when you drain a car battery it looks greyish but once it is filtered it turns clear try using a shop cloth to filter it. You can also try and boiling it but im not sure how it is gonna work i have never had that problem. I hope this helps -pois PS: Do you or any body else have icq that don't have added?</td>
</tr>
<tr>
<td>shary</td>
<td>July 26, 1999 05:35 PM</td>
<td>I have icq, my number is 1314599. shary</td>
</tr>
</tbody>
</table>
Don't be a filtering nothing with a shop cloth, you will merly
destroy the cloth and contaminate the acid further. The stuff for

drain cleaner is 90-95%, strong enough to eat through fabric
fast. The brownish color is most likely a minor iron impurity from
the manufacturing process, harmless for drains, and not much
of a problem in the lab. Unless your work requires ACS grade
acid, it is fine.

Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania

I do not know if it is just me but I thought you could go into a
hardware store and ask for pure sulferic acid to refill your car
battery. Is this not true. Cause i know someone that has a jar
of pure shit that his dad uses to refill there batery.

I get a drain cleaner type , it is tinted red , possibly brown if
you look through a large volume of it. It is 99% pure , and
works fine for me - as mega says it is probably a little
contamination.

The sulfuric acid that is sold for car batteries is typically 50%
concentration and a lot more expensive for what they give you.
It is pure though, needlessly maybe. Another source of that
discoloration in high concentration acid is excess sulfur
dioxide/trioxide from a little bit of decomposition, nothing to
worry about for most applications.

It may indeed be an iron impurity, but many drain cleaners add
a coloring agent to make it easier to detect spills. The stuff I
have is black. It should be even less of a problem than an iron
contaminant.
ugh! I didn't search for a long. But I've found none drain opener with sulfuric acid. Perhaps I must take a look at bigger shops. I've only found drain opener with crystals of sodium hydroxide. Is it possible that most companies only sell this shit because of the dangers from sulfuric acid for the Nature?? OR it's just da law in my country 😓
What about a synthesis for sulfuric acid??
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: time fuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlw daw</td>
<td>does anybody know where to buy time fuse in the northern VA region(arlington), in the US?</td>
</tr>
<tr>
<td></td>
<td>&gt; &gt; &lt; signature &lt;&lt; &lt;&lt; this is the cops give me all your ...ahem.. books on making, ahem.. bombs.</td>
</tr>
<tr>
<td></td>
<td>:-)</td>
</tr>
<tr>
<td>Ho ju</td>
<td>Do not need to buy an actual time fuse. just take a ciggerette and poke a hole in the side of it. (just above the filter) and insert a regular fuse. light the cig and let it burn to light the fuse. and have the fuse attachted to something</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td>dlw daw</td>
<td>I mean time fuse used for blasting caps, maybe Iconfused you, blasting fuse. I know that time fuse can be used for the same thing they are both 1/4&quot; and reliable the time is more reliable</td>
</tr>
<tr>
<td></td>
<td>&gt; &gt; &lt; signature &lt;&lt; &lt;&lt; this is the cops give me all your ...ahem.. books on making, ahem.. bombs.</td>
</tr>
<tr>
<td></td>
<td>:-)</td>
</tr>
</tbody>
</table>
poison
Frequent Poster

posted August 25, 1999 03:20 PM

You can buy blasters 1/4in fuse from pyrotek. I even think they have more then one kind.
-pois www.Pyrotek.org

Ho ju
Frequent Poster

posted August 25, 1999 03:30 PM

Yeah i have the pyrotek catalog. They have some sweet shit in there that they are selling to anyone of age... The 1/4 inch blasting fuse is $.75 a foot.

--------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

dlw daw
Frequent Poster

posted August 25, 1999 03:58 PM

I know you can buy cool shit in the pyrotek catalog. I have three of them, I just wanted to know if there was anyplace like a store where you can buy it, without mailorder.
they have 1/4" blasters fuse(.75 cents a foot)
and they have 1/8" visco, this is sold in big rolls. its labeled as waterproof 1/8" green fuse, this kind is perfect in pipe bombs, I have never made a pipe bomb, but its good for firecrackers too.
they also have 1/4" timefuse(1.00 a foot)
what i really want is some perc.(potassium perchlorate)german black aluminum powder(# 600 mesh) in a ratio of 7 pounds perc. 3 pounds aluminum powder.
I also want 20 pounds of potassium nitrate
3 pounds of charcoal
2 pounds sulfur
this is a ratio of 75/15/10 for black powder
plus 5 pounds of extra potassium nitrate to have.
I have not ordered anything but I really want to.
they also sell end plugs and tube that would be perfect for salutes(firecrackers).

>:x >P :p >| .*

--------------------
>> signature<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:-)
I bought a 20 foot roll of the green waterproof fuse some years back at a hobby store for use in model rockets. It is suprising what you can still buy at such places.

I like that sig, dlwdaw, it's so reminiscent of Fahrenheit 451. Today the public is riled up against bomb info, tomorrow it will be drugs, the day after that it will be fictional accounts of bombs and drugs. That gives them momentum, and once they have momentum they will not likely stop. Now comes violence, no Illiad or Oddessay, there is a war in that. No science books, we can't describe violent chemical reactions. No biochemistry, you could discover drugs. World War 1 and 2? Perhaps we should not teach our children such violent things. You dare complain we are burning these filthy books? You are a criminal now.

The progression from "well they are only bomb books" to "ban all the books" is taken one step at a time. They may even tinker with the Constitution, once they have gotten that pesky document out of the way, there is little to stop them. This is the reason we must accept all ideas, no matter how bad. The founding fathers of the US knew this, most citizens know this. The best way to avoid that last step is to not take the first, you can't stop once you get going.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---

I bought my roll of green fuse from the gunshow, I dont know why the hell the guy was selling cannonfuse(also its called 1/8"visco or green waterproof 1/8" fuse). he also sells alot of military gun magazines(the kind that go in the gun not the kind about a gun). he was selling it quite expensive, compared tootther prices.

he was either buying it from www.skylighter.com
prefered by pyro's www.pyrotek.org
more expensive http://home.if.rmci.net/firefox1
tell me if this link dosent work.
http://www.netins.net/showcase/iowapyrosup
the guy at the gunshow is charging $5 for about 25 feet.
7 dollars for 50 feet,
Welcome to Pyrotek.org, your home of Experimental Chemicals, High Powered Rocketry and Laboratory Glassware.

PYROTEK, your source for pyrotechnic chemicals, laboratory chemicals, lab glassware and supplies. We have been supplying the hobbyist, professional, college, high school, special effects movie industry and government with high quality laboratory chemicals and supplies for over ten years. We have all your needs for experiments in rocketry, fireworks and chemistry.

If your looking for hobby fuse, electric igniters, oxidizers, flammable solids, high power rocketry supplies, rocket kits and how-to books and videos we’re your one stop shop for all.

High Power Rocketry Section of Pyrotek.org. Check it out!

For the General chemistry enthusiast we have reagent acids, solvents, boiling flasks, beakers, test tubes, glass tubing, hot plates, magnetic stirrers, lab clamps, you name it - we probably have it at very competitive prices!

IF YOU WOULD LIKE A COPY OF OUR "HUGE CATALOG" PLEASE CALL, WRITE or E-MAIL US FOR A COPY AND WE'LL BE GLAD TO SEND YOU ONE.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Bleach + Hydrogen Peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>posted August 21, 1999 07:33 PM</td>
</tr>
<tr>
<td></td>
<td>What kinda gas is let off when you mix bleach with hydrogen peroxide? (the stuff you buy at drugstores that comes in a brown bottle) it can also be lit if that helps.</td>
</tr>
<tr>
<td></td>
<td>Death is only a beginning.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted August 24, 1999 10:15 PM</td>
</tr>
<tr>
<td></td>
<td>is it hydrogen?</td>
</tr>
<tr>
<td></td>
<td>---------------------</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Bond007</td>
<td>posted August 24, 1999 11:32 PM</td>
</tr>
<tr>
<td></td>
<td>Quit stealin qoutes...............a.k.a Quit Talkin Shit peace</td>
</tr>
<tr>
<td></td>
<td>Knowledge Is Power</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted August 24, 1999 11:59 PM</td>
</tr>
<tr>
<td></td>
<td>How is my quote your quote...?</td>
</tr>
<tr>
<td></td>
<td>---------------------</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
</tbody>
</table>
poison  
Frequent Poster

posted August 25, 1999 03:15 PM

Dosn't look like he is stealing your "qoutes" in your words > ☹️ to me.
-poison
I would also like to know what the gas that was made. It didn't sound powerfull enough to be hydrogen.

IP: Logged

Ho ju  
Frequent Poster

posted August 25, 1999 03:28 PM

Well i do know that in a big enough quantitiy it lights into a fure ball. I Am thinking it is either hydrogen or oxygen.

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

Bond007  
Frequent Poster

posted August 26, 1999 02:03 AM

Knowledge is power,power means control,control means the world is your fruit,power and money= Sucess and jealously,Jealousy menas Envy,Envy means Haters,Knowledge is power{Dodge the Haters}
READING IS THE KEY

IP: Logged

poison  
Frequent Poster

posted August 26, 1999 06:44 PM

I know how to test if it is Ox light a piece of wood on fire and blow it out so there is only a amber left. Then stick that into the gas it should light back on fire. I also think that hydrogen would make a huge fireball if light in a big quanty like that i don't see why it wouldn't. Since it is not bursting into flames when you light it try the above method but i wouldn't try it on a unknown substance.
-poison

IP: Logged
Thanks poison. Bond... What the fuck was that? That was just a bunch of dumb words strung together...

-------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

---

Bond you do not make any sense what are you in 5th grade? Maybe 6th?
-pois

---

Logon
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mosaz</strong></td>
<td>posted July 24, 1999 10:46 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>did someone from you ever have a bad accident because I'm unexperienced in making explosives and their dangers.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ezekiel</strong></th>
<th>posted July 24, 1999 02:53 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you mean have I ever had an accident, then no - personally I have never had any accidents. I don't know anybody personally who has either, but I don't know anybody else personally who uses explosives. Explosives are dangerous, but it does depend on the ones you use and how careful you are. If you know anyone who uses them then get them to show you basic safety and how to use etc etc.</td>
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<td></td>
<td>IP: Logged</td>
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<table>
<thead>
<tr>
<th><strong>Predator</strong></th>
<th>posted July 24, 1999 08:57 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes. Twice.</td>
</tr>
<tr>
<td></td>
<td>Once waas when I was starting out in this field, and I was compacting down some caps into a tube I was holding (stupid, I know) and suddenly, it went BOOM! It shattered, in my hand, leaving my fingers red + raw, but with only a few blood blisters here and there, nothing major, nothing broken, but don't let this make you think all explosives are dangerous... that incident was with a very, very small amount of powder, and it still hurt like hell, might I add.</td>
</tr>
<tr>
<td></td>
<td>Another time, I was placing the projectile into the blast chamber of my rifle, when it went of unexpectedly (while pointing up), the bullet somehow (because of lack of barrel, got deflected by the screwdriver I was holding at the time, and the bullet headed in my direction, went between my armpit and elbow, and straight through the wall beside me, that was</td>
</tr>
</tbody>
</table>
close.... I could be lying 6 ft under now....

So, thats out in the open. Anyone else? 😊

**DaRkDw ArF**
unregistered

posted July 25, 1999 06:14 AM

I once set my entire hand alight, I got napalm stuck to it and accidentally put my hand down near the gas burner we were using for the napalm, I got 2nd degree burn on my hand =( 

**e z e k i e l**
Frequent Poster

posted July 25, 1999 10:02 AM

I always wear a pair of kevlar gloves when I handle explosives or flammables, they can take heat up to 400°C and are almost uncuttable - gives me a nice safe feeling.

-------------

ezekiel@cannabismail.com

"Hitler bad, explosions good"

**Ve He MT**
Frequent Poster

posted July 25, 1999 08:13 PM

I myself have had an accident and my friend has while we were working. Both incidents were caused by bad decisions due by our youth/lack of experience.

Once about 2 or 3 years ago while working alone (I dont care what you say I'ts always better to work in two's provided both are RESPONSIBLE) I was loading a container with an explosive powder with a funnel. Small chunks of the powder jammed the small neck of this funnel and i first tried to agitate it a bit to jiggle them down. This didnt work so I tapped the powder directly with a small jewelers screw driver and the whole thing went off. The container and funnel were made of soft plastic so there werent any fragments to inbed in my hand, the amount that went off must have been 1.5 cc of loose cap powder. It (like Pred's experience) left that part of my hand "raw" and i had a single blood blister on my thumb.

The other time was much worse, my friend decided to crush some very sensitive powder (cant remember what it was) with the back of a plastic spoon (hard plastic) in a small hard plastic box about 4 mm thick (bad). The powder detonated and left my friends hand completely imbedded with bits of plastic. His hand was bleeding pretty good.

Since then, whenever i have to put any explosives in a container for any time, i use styrofoam cups which would not send any skin penetrating fragments. The actual shock of the
explosive's (unless the amount of explosive is quite large) only leaves the affected area numb and "stunned" for awhile until blood circulation takes its affect. The fragments do the most damage, which is why you should always whenever possible try to minimize the amount of fragmentation created from an explosive (unless that is intentional...).

I hope that was helpful.
Remember whenever handling any explosive never do anything until u know of every possible consequence. Until then consider your plans unsafe.

~ VeHeMT

MrBumpy
unregistered
posted July 26, 1999 03:52 AM

I personally haven't had any accidents apart from my hearing ringing from loud explosions, but my idiot friend put a mixute of pool chlorine, sugar and water into a glass bottle and sealed it to make a pressure bomb, He thought it was taking too long so he decided to pick it up and shake it, then, just as he had put it down, it blew up and he got burns all over his arms and neck, fortunately he didn't get any glass shrapenal

Saiyan Knight
Frequent Poster
posted July 26, 1999 07:36 PM

I never had an accident myself, but I have a friend who made semtex( a powerful plastic explosive) and detonated a 2 pound charge of it under a junk car and the some plastic shrapnel from the car went 1/16 of an inch in his arms.

ezekiel
Frequent Poster
posted July 27, 1999 05:46 AM

What exactly is semtex? I thought it was just blasting gel, possibly with some more additives.. And how would you make it?

-------------
__
ezekiel@cannabismail.com
"Hitler bad, explosions good"
Survivor@netlimit.com posted July 27, 1999 06:37 AM

Semtex is a plastic explosive, composed of a mixture of PETN, RDX, and a plasticizer/binder. It is manufactured in two forms, Semtex H and Semtex A, which differ in the proportion of the PETN and the RDX.

/Survivor

Andy Moderator posted August 07, 1999 01:09 PM

I have never injured myself in this hobby. I am aware of the dangers and I always am very cautious when working with chemistry or pyrotechnics.

I have had an accidental detonation of HMTD, but never an accident, which has caused an injury.

Andy-

-------------------


megalomania Administrator posted August 07, 1999 03:56 PM

My first was a run away chlorine generation in my lab. I had the gas mask handy and the fan going. That led me to think about a homemade fume hood.

My only real accident came while making nitroglycerine. I ignored safety protocols quite on purpose, ues how foolish of me. After taking constant temperature measurements, it did not show a rise. I was only using cold water as coolant. When I had added all of the glycerine I decided to remove it from the bath and set in on the countertop in a heating mantle (not to heat, I was using a round bottomed flask and the mantle holds them very well). I gave it a good stirring and left...

A few minutes I looked in and to my horror of horrors it was the embodiment of all warnings, not an explosion mind you, but destructive decomposition to the Nth degree. A fountain of spurting acid and deadly nitrogen dioxide gas was spewing forth like some science fair volcano at an increasing rate. This was in my dorm room, which is technically a skyscraper, that means sealed windows. I spent the night elsewhere...

This was about the worst kind of accident short of actual detonation, the kind of thing they show in movies about chemistryCalls. Last time I didn't adhere to safety protocol. Good ol gas mask, a wise investment for our line of work.

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<table>
<thead>
<tr>
<th>Username</th>
<th>Post Date</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>PryoTek</td>
<td>August 08, 1999 06:56 AM</td>
<td>I burnt my hand bad with some black powder set off by a spark the only good thing to come of this was the shot of morphean that i got a the doc</td>
</tr>
<tr>
<td>MOONY</td>
<td>August 27, 1999 08:15 AM</td>
<td>I once blew up a bridge. JUST BEFORE I DID IT I LIT A BOTTLE OF PETROL (I WAS YOUNG) ONLY THE TOP WAS ON FIRE, I TIPPED THE BOTTLE DOWN AND SUDDENLY WOOOOOOOOFFFFF!!!!!!MY HAD WAS IN THE WAY. IT WAS BURNT TO A CRISP, BUT I DIDNT HAVE TO WRITE AT SCHOOL THE NEXT DAY. ANYONE LIVE IN BRISBANE, AUSTRALIA? I DO</td>
</tr>
<tr>
<td>poison</td>
<td>August 27, 1999 04:04 PM</td>
<td>Wow that had to be the stupidest thing i have ever heard and you still sound like your &quot;Young&quot;</td>
</tr>
</tbody>
</table>

All times are ET (US) | next newest topic | next oldest topic

Administrative Options: Close Topic | Archive/Move | Delete Topic

Contact Us | The Forum

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: guncotton</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sharky</strong></td>
<td>posted July 27, 1999 06:02 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>When making guncotton, how long does the &quot;cotton&quot; need to be nitrated? Also, will this ever detonate or just burn? thanks</td>
</tr>
</tbody>
</table>

| **poison**    | posted July 27, 1999 08:00 PM |
| Frequent Poster | I think it is like 15 minz or so. It does detonate when confined. -pois |

| **megalomania** | posted July 28, 1999 12:23 PM |
| Administrator | I never could get mine to do much. I leave it to nitrate overnight, the way I see it you can not overnitrate, wheras you can undernitrate. I also give it a week to dry in the open. 

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |

| **Zanx**      | posted July 28, 1999 11:48 PM |
| Frequent Poster | Does anyone know a good ratio of cotton/nitric acid/sulfuric acid for making nitrocellulose? The way I have been making it doesn't seem so great. Thankz |

IP: Logged
I think the reason mega's doesn't work is maybe you were using "cotton" cotton wool, you must get 90% (or more) cellulose, in England you only get synthetic crap but it will always assay on the packaging. Most stuff nowadays is made of various plastics with cotton mixed in.

The way nitrocellulose is made for guns, it is only dipped briefly in the acid mix. By briefly I mean 20 seconds, and I think it's stirred quite vigorously at the same time.

-------------

-ezekiel@cannabismail.com
"Hitler bad, explosions good"

---

Guncotton will detonate with a number 8 blasting cap or the equivalent and it doesn't have to be confined. When it detonates, it is very powerful with a detonation velocity up to 21,000 fps depending on the concentration of the nitric acid. The higher the concentration of nitric acid, the more explosive guncotton will be. A good commercial sample of guncotton contains about 13% nitrogen. The guncotton that is used for the propellant in firearms contains about 5% nitrogen and the source of cellulose to be nitrated comes from sawdust. So the guncotton used in firearms will not detonate. And for making guncotton I like to use this ratio, three parts sulfuric acid to one part nitric acid to one part cotton. Mix sulfuric and nitric acid. Then add the cotton. Leave the cotton in for 30 minutes and make sure it is fully submerged under the acids. After 30 minutes, remove the cotton and wash it with water. Then soak it in a solution of baking soda until no more bubbles form. Wash it once more with water. Then let it dry.

*pigenx*
unregistered

Doesn't only double base powder detonate? I've never heard of plain (single base) gunpowder exploding.
Yes, double base smokeless gunpowder will detonate, especially bullseye which has the highest nitroglycerine content than any double base smokeless powder available to civilians. It will detonate with a number 8 blasting cap or the equivalent. When detonated, it is as powerful as military TNT.

Saiyan, like how many grams of AP or HMTD would be equivalent to a #8 blasting cap? Is there a standard weight of primary explosive for each number of blasting cap? I mean, like does it go up a gram for every number or something like that? Sorry, I don't know anything about the number thing for blasting caps. Oh yeah, I assume that the ratio you gave for the nitrocellulose was all by weight? I get confused when its a ratio with a solid and a liquid. About how powerful is good nitrocellulose when detonated compared to other explosives? Sorry for all the stupid questions. I have to learn somehow. =)

Primary #8 commercial blasting caps contain two grams of primary explosive, usually lead azide or Lead styphnate, but AP or HMTD will work. Also the ratio I gave for nitrocellulose was by volume. And good nitrocellulose (13% nitrogen) will detonate at 21,000 fps, which is quite powerful.

Cool, thankz

im sorry but what is the difference between gunpowder and black powder?
IM DUMB
The modern gunpowder that they usually use now, is actually nitrocellulose. It is made by nitrating cellulose (cotton). That is why it is also sometimes called guncotton. Blackpowder isn't as powerful and is composed of 75% Potassium nitrate, 15% charcoal dust, and 10% sulfur. The ratio is of course by weight.

Well, black powder is a type of gunpowder. But what I think you mean is what is the difference between the gunpowder in pistols, rifles and shotguns cartridges and black powder. The difference is that the gunpowder used for making in cartridges is made of nitrocellulose with a low nitrogen content. This is called a single based smokeless propellant. Some smokeless propellants contain mixtures of nitrocellulose and nitroglycerine. These are called double based smokeless propellants. Black powder is a mixture of potassium nitrate, sulfur, and charcoal (willow charcoal). Black powder is used in muzzleloaders.
Ho ju
Frequent Poster

How do you make HMTD? it is not on andy's site anymore. there are the chem. needed but not the procedure. I couldn't find the answer on any other post so decided to ask.

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Loopkin
A New Voice

HTMD, or hexamethylene triperoxidediamine, is an organic peroxyde which is about 150% the power of peroxydacetone.
- dissolve 3g. of hexamine in 35 mL of H2O2 and cool it to 0°C in an ice bath.
- slowly add 4.5g. of citric acid and stir the mixture every 10mn for 3 hours, holding the temperature at 0°, with a GLASS rod (no metal, HTMD is corrosive)
- let it stand for 2h at room temperature then filter the solution
- rinse the crystals with alcohol

This is an extremely unstable explosive : sunlight may be enough for detonating it.
It's very oxidizing and reactive : don't mix it with any combustible substance. Use plastic containers only.

(excuse me for my school english)
Loopkin
For complete info go to Megalomania's Explosives and Stuff
http://surf.to/megalomania

[Note: This message has been edited by megalomania]
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Electronic detonation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ho ju</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted August 27, 1999 08:13 PM</td>
</tr>
<tr>
<td></td>
<td>Does anyone know of a good way to make an electronic detonator? You know, like the ones they use in teh movies? you push a bottom, it sends a signal and kaboom!</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>

| **Survivor** |                               |
| Frequent Poster | posted August 28, 1999 05:51 AM |
| Ho ju, Try "Kitchen Improvised Blasting Caps". |

| **Washuu X** |                               |
| unregistered | posted August 28, 1999 08:17 AM |
| Get yourself a radar gun and a radar detector and you got a remote control device that even the british army can jam (IRA used it). Or use a radio-controlled door bell. Modern electronics are fun. |
Saiyan Knight
Frequent Poster

posted August 28, 1999 09:33 AM

Ho ju, don't believe everything you see from the movies because a lot of it is fake. An example of this is when you might see a terrorist put a 5 pound charge of C-4 or some other powerful explosive under a car and it blows up. They would never use real high explosives in a stunt like this because of shrapnel which can travel hundreds of yards. What they would use is called a nap bomb (a naphthene fuel air explosive device). This is quite harmless in the open. Once it goes off, a mixture of finely divided naphthene and black powder is shot up into the air by a charge of black powder and ignited by an igniter in the bomb and thus creating a huge fireball.

Ho ju
Frequent Poster

posted August 28, 1999 11:45 PM

yes i know movies are fake. (i think) but i was just trying to give an example.

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Ho ju
Frequent Poster

posted August 28, 1999 11:48 PM

If you make a pipe bomb using flash powder will this create the "force" needed to detonate ANFO?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Survivor
Frequent Poster

posted August 29, 1999 07:12 AM

No flash powder is not brisant enough.

------------------
/Survivor
Survivor@netlimit.com

------------------
Alright thanks alot. Is there anything i could do to it to make it more brisant? Or is it stuck "As Is"?

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Washuu X
Frequent Poster

posted August 31, 1999 02:38 PM

Would it be brisant enough to detonate a high explosive booster, like picric acid or RDX or poor man's C4? This could then detonate the ANFO.

Feticidal Fantasy
Frequent Poster

posted August 31, 1999 03:19 PM

For remote control electron detonation, depending on your budget, you can use a pager. Just remove the beeper and hook up your lead wires to the ignitor. Or you could get a set of walkie talkies and do the same thing, just talk to it, and it will send current to the speaker. Or you could goto the model airplane store and buy a good quality remote control servo set for around $50.
The idea of a wireless doorbell is a good idea, but i dont think the range would be pleasing. I myself would probably use the pager method, if you are going to be needed remote control electronic ignition, the blast will be of enough importance to warrant the extra expense.

-------------
Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! http://www.seduced.to/fuckyourmother

Administrative Options: Close Topic | Archive/Move | Delete Topic

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Powered by: Ultimate Bulletin Board, Version 5.38  
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Red phosphorous &amp; Potassium chlorate</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td>posted August 31, 1999 06:53 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>Is there any way of obtaining Red phosphorous with out ordering it or going to chem supply or stealing it from school 😊. And is there any way of extracting Potassium chlorate from match heads? I know it will take a lot but is it possible? -poison</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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</tbody>
</table>

| Saiyan Knight | posted August 31, 1999 07:37 PM            |
| Frequent Poster |                                           |
| They rough red stuff on match books is red phosphorous and powder glass. But I don't think you would want to waste your time scraping it of so many match books to get a desired amount. |
|              | IP: Logged                                  |

| poison       | posted August 31, 1999 09:58 PM            |
| Frequent Poster |                                           |
| Powdered glass? What? The match books i have the rough stuff is brown -poison |
|              | IP: Logged                                  |

| dlw daw      | posted August 31, 1999 10:28 PM            |
| Frequent Poster |                                           |
| you can order red phosphorus from pyrotek. (www.pyrotek.org). I know this is a supplier, but is the only place I have seen that sells it. it is 80 dollars(US) a pound. plus the UPS fee. which with all the fees it adds up to about 100 dollars. |
|              | > > << signature << <<                      |
|              | this is the cops give me all your ...ahem.. books on making, ahem.. bombs. :-) |
|              | IP: Logged                                  |
The red phosphorus is blended in with the powder glass and the glue that holds it to the match book.

Is there any way of just taking it out maybe with some acetone?

I'm not sure, maybe you could scrape it off every match book you used up.
I found this 'recipe' in the anarchists cookbook 2000 and I woz wondering if it works or if anyone had tried it:

Take a glass jar, and put 3 to 4 drops of gasoline into it. Then put the cap on, and swish the gas around so the inner surface of the jar is coated. Then add a few drops of potassium permanganate solution into it and cap it. To blow it up, either throw it at something, or roll it at something.

Why do you want to use the name of the 'author' of these files when you don't even know if they work?

Potassium permanganate is cool shit. I used it in bio and I love it. This has nothing to do with your question I just want to talk to here myself talk. I also have always wondered if this would work. Could you just mix pure potassium permanganate with gas?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Jolly Roger-

I have a special bomb just for you. No one else try it, just him. I want him to feel special for being the first one in this forum to make it. Get a large thick glass jar, cover the inside of the jar with a quick drying glue. Now dump in a container of BBs, roll them around until the entire inside surface is covered, leave this to dry in the sun for a day. Next day, put a plastic bag inside the jar, like a trash bag in a trash can, so that the chemicals you add aren’t going to fuck with the glue. k? Now, pour in 2 cups of liquid chlorine (get it from the pool store and don’t inhale it!) after you have added the Cl also add in 2 cups of turpentine or ether (which ever is easier for you to get). Using a stick slowly stir the solution, as you stir at the bottom of the jar little greenish-yellowish crystals will start to appear, you will have to be really close to see them, put your face right up next to the glass. Keep watching until you see some crystals forming towards the bottom.. then after 30 minutes all the crystals should have formed, filter them out and dry them. They are 120% of the power of TNT, detonate them with AP or HMTD, only a gram or two is needed. let me know how it goes.. have fun.

-------------------
Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! http://www.seduced.to/fuckyourmother

-------------------

Jolly Roger-

One more thing i forgot to tell you. screw the lid on really tight on the glass jar and let it sit for 30 seconds before you stir it

-------------------

I made an explosive mixture similar to this. It is no were near as powerful as TNT. This is just a simple explosive mixture.
Feticidal Fantasy -

I have already tried that, and am not that dumb to put something like that in a glass jar full of BB's!

Nice try anyway... 😊

p.s. nice website
### Author | Topic: shaped charges
--- | ---
**dlw daw**<br>Frequent Poster | ![ posted August 31, 1999 09:54 PM ](image1) **I just watched a video I bought its called deadly explosives, it showed a homemade shape charge mad of a wine bottle, it was cool as shit. the bottom was a concave shape. it was packed with C-4. it cut through an inch of steel plus went about a foot in the ground. i think it was a pound of C-4. that was a useful video. although not really worth 40$ (US). it showed the different burn rates of smokeless powder, 4fg black powder, mercury fulminate, lead azide, flash powder, and showed the impact static and friction sensitivity of all of them plus lead styphnate. lead azide, MF, and flash powder were impact. LS was static and i cant remember which one was friction sensitive(according to the tests), i think lead azide, they didint test styphnate except for static. for some reason nothing was static sensitive except for LS

-------------
>> <<< signature <<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:-)  

**Saiyan Knight**<br>Frequent Poster | ![ posted September 01, 1999 06:04 PM ](image2) **Does it show you how to make explosives or does it just talk about them an compare det. velocity and stuff like that all through the video?**

**PryoTek**<br>Frequent Poster | ![ posted September 01, 1999 06:10 PM ](image3) **I have seen that video That is cool**
talk about the power of explosives and how to properly place blasting caps in C-4.

he talked about
C-4
comp. B(TNT+RDX)
det cord
PETN
RDX
TNT
Flash powder
merc. fulminate
lead azide
lead stypnate
bullseye powder
4Fg blackpowder
AlA (he said it was a pyro. comp.)

he showed the sensitivity
of
MF(merc. fulm.) impact
LA (lead azide) a little friction, impact
LS (lead s.) static (didnt show anything else about this)
bullseye none
4Fg BP none
flash powder impact

it didnt say how to make explosives but it showed the shaped charge which was a wine bottle with the top cut off filled with C-4
it might be worth 30 dollars but not 40 (I paid 40). it was recorded with a camcorder.
it is a low fidelity tape (not very loud).

it was halarious there were cats walking behind him, and dogs. also when he tried to light a fuse he wasted about 5 matches.

that's about it

-------------
>> <> signature << <>
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:-)
<table>
<thead>
<tr>
<th>Feticidal Fantasy</th>
<th>posted September 02, 1999 03:10 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>that is very interesting about the wine bottle.. about how much was cut off? and then the open end was just left open?.. anyone think this would work with ANNM insted of c-4?</td>
<td></td>
</tr>
</tbody>
</table>

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Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! [http://www.seduced.to/fuckyourmother](http://www.seduced.to/fuckyourmother)

<table>
<thead>
<tr>
<th>Saiyan Knight</th>
<th>posted September 02, 1999 03:29 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes indeed it will work with ANNM. If fact on Rager benson's homemade C-4 video he shows you how to make a shape charge using a wine bottle with a concave end using 6 onces of ANNM.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bandit</th>
<th>posted September 02, 1999 05:11 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can use all sorts of things. Like bowls and cups. How it (from a book) the simultaneous activation of diametrically opposed charges &quot;counter-force&quot; produces two shock waves that meet inside the target to cause internal destruction.</td>
<td></td>
</tr>
</tbody>
</table>

Bandit
Author: sharyk
Topic: tnt

How hard is tnt to detonate?
sharyk

Author: Saiyan Knight
Topic: tnt

TNT is kind of hard to initiate accidently, it is stable to accidental shock and friction. TNT is sensitive to a #10 blasting blasting cap(a blasting cap containing 4 grams of primary explosive).
Saiyan Knight

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: You Know What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond007</td>
<td>posted September 03, 1999 02:01 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Fuck you ho jo you fake ass bitch i been here just as long as you,ive visited the board before you ever knew it existed fuck head {you seen my shit,knowledge is power and started dissin it fuck face}if i knew where you were i'd probally set your place of rest on fire,for the rest of you assholes i try to say please as much as possible any body got a problem fuck ya{they weren't demands and they didnt have to be answered!} all i wanted was some help sheesh please kind sir ,your royal fuckin hinenet can i get some help?{oh yeah to that fuck about nitric acid and my hand and shit, yo heres a nice cocktail mix this ratio:1 cup of battery acid,1 cup of 151 proof:drink till ya dead to all the other peeps on this board yo no disrespect meant and i really hope theres no disrespect taken!! knowledge is power you dont believe that hmpf try me 😊 Knowledge Is Power</td>
</tr>
<tr>
<td>poison</td>
<td>posted September 03, 1999 03:20 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>No, Do you know what? How about you go back in the fucking closet? Im sick of hearing you bitch and complain if you don't want to be bitched at don't come back. -Poison</td>
</tr>
</tbody>
</table>

IP: Logged
it is ho ju for starters. And why in the hell did you start your own thread just to bash me? that is kinda stupid... And i got my saying from a dilbert comic strip thank you very much. (it is not exactly what dogbert said but it is a spin off.) so all the credit goes to the creator of dilbert.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Oh come on now. I've sat long enough on the side lines watching this fuss happen.

IMO it is quite unnecessary and completely childish ( I said it first! googgoo gaga!).

I do not think anybody copied anybody and that it was a coincidence rather then anything else. And accusation's will only make things worse. Simple questions would have solved this conflict ages ago, the two of you found out it was a coincidence and had laughed about it, but now it is wasting my time, users of this board's time and this boards space.

Please, we need no more of this

~ VeHeMT
Could I boil sulfuric acid the way I see in many books (anarchy and not). And can you really make nitric acid with KNO3 and H2SO4. Also for a retort (very expensive) could I use a Erlenmyer flask with one hole stopper and plastic tube through it, and for the condenser (somebody mentioned this I cant remember who) could I use the same tube. Also for the condenser instead of ruining a beaker (and how would I drill a hole in it) could I use a 2 hole stopper and a flask. I will have a picture in a while. I am drawing it, then I have to scan it.

--------------------
>> << signature << <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:) :-)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun.
For a condenser you could just make a "sheet" of glass tubing so it goes straight then turns 180 degrees then goes straight again so it goes back and forth. Then put it into a glass tray (a casserole dish would work nicely). Glass bending is quite easy, and if you go to your local library they will have many books on the subject of glass bending.

The tray is filled with cold water with ice and gas pumped through it to make sure the walls of the tray are low and make the "sheet" go on an angle so that where the gas goes in is higher then where it leaves. The liquid will have to flow from one end to the other so arrange the tubing so it can do this, since if you position it the other way it will all catch in the bends of the tubing. Then have the lower end stick into some kind of holding vessel for your final product.

~ VeHeMT

ps: these details are very vague and since making your own nitric acid is becoming so popular I will work on putting up some plans for a condenser on my web page sometime after I finish whatever I said I was working on right now.

---

damn that sucks, could I use bent glass tube?

-------------

> > < signature > < <
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

-------------

ve hem it what's your website?

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> > < signature > < <
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-)
visit my website.
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http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun
you’ll notice the lack of material as of yet due to the fact im lazy 😈
here's the pic. and can i conc. h2so4 by heating

----------------
>> <> signature <> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-(
visit my website.
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http://fun.to/makeexplosives
http://remember.to/makeexplosives
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All times are ET (US)
Ho ju
Frequent Poster

What type of hydrazone do you need for astrolite. I am looking at a companies web site and they have a whole shit load of different types like Hydrazine Sulfate...ect and shit like that.

-----------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Saiyan Knight
Frequent Poster

You need anhydrous hydrazine.

Ho ju
Frequent Poster

Figures cause that is the only Hydrazone that they did not sell. Ohwell guess i will not be bringing down any empires in teh near future.

-----------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
your crazy if you want to make astrolite.
bad things about hydrazine:
1) hydrazine is toxic
2) hydrazine vapors and fumes are toxic
3) it is corrosive

good things about hydrazine:

bad things about astrolite:
1) hydrazine is toxic
2) after detonation you have a cloud of toxic gas (or vapors)
3) you can't store it in anything except for glass (which is dangerous in case it blows up it will send glass fragments), because it is highly corrosive
4) couldn't you just mix nitromethane with ammonium nitrate to make kinepak, with an addition of 5% Al. powder
5) astrolite is toxic

good things about astrolite:
1) can detonate after being soaked in the ground and rained on
2) most powerful non-nuclear explosive known to man (or woman), the det. velocity is about 28,000 fps, astrolite with Al. powder added is about 30,000 fps.

😊😊😊😊😊 > 😞 > 😊😊😊😊😊

What's kinepak - I have access to large quantities of nitromethane, so tell me more!

Kinepak is a binary explosive. It is made by adding nitromethane with a small amount of nitropropene to ammonium nitrate. For home-manufacture you can leave out the propene and use plain nitromethane. I don't have the recipe with the exact amounts handy at the moment, can somebody else please post it. A similar mixture is known as poor man's C4.
Concerning hydrazine, if I synthesize hydrazine sulfate by gelatin/hypochlorite/ammonia route, could I freebase the sulfate using NaOH to obtain aqueous hydrazine?
Would it be feasible to use magnesium sulfate to clean the raw product of water or would I have to distill?
BTW, IMHO this "most powerful non-nuclear explosive known to man (or woman)" is a myth. I think megalomania or someone else said it was just started to sell books and that eg the MEDINA class was more powerful.
It was the worlds most powerful explosive.

Kinepak is 7-10% nitromethane (+ other extracts) with small prilled ammonium nitrate.

Mr Joly, as we both live in England could you tell me where you get this Nitromethane, as I can only get it as a fuel mix which only contains 1/3 NM.

where do you live in england anyway?

me and bandit are in london.

-------------

ezekiel@cannabismail.com

"Hitler bad, explosions good"

Saiyan Knight

Kinepak can be made by mixing 430 grams powder ammonium nitrate with 80 mL nitromethane. Twenty grams aluminum powder can be added to accelerate det. velocity but is not required. If you are in a hurry and don't feel like weighing the chemicals out you can use this ratio: 3 parts by volume powdered ammonium nitrate to 1 part by volume nitromethane. Kinepak detonates at 22,700 fps.

Ezekiel -

I live in kent, and nitromethane can be bought from model shops, which is used as part of a fuel for small model glow plug engines. It's quite expensive, but fairly pure as well. Model Technics are the company that make it.
e z e k i e l
Frequent Poster

posted September 04, 1999 03:46 AM

Nice area... I live in south east London. I've now found a model shop (in guildford, unfortunately) that will sell it but I'll have to get it over mail. The place I knew of before only sold it in a premixed fuel (only $1/3$ NM).

thanks

---------------

ezekiel@cannabis.com
"Hitler bad, explosions good"

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All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Many thnx many thnx ;)</th>
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<tr>
<td><strong>Bond007</strong></td>
<td>posted September 04, 1999 04:34 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>knowledge is power hpmh...........well...........ho ju well my apologies all i wanted was help in the first place and then you gotta shit on me and it does help when ya two bit followers start talkin trash,i started this thread as to extend an olive branch out to you,its really nothing personAL,just a learning............well like everything on this bord something to learn from....................Knowledge can be power{if your smart enough to use it, and not get caught} 😊</td>
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<td>IP: Logged</td>
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<tr>
<td><strong>Bond007</strong></td>
<td>posted September 04, 1999 04:38 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>An Olive Branch of Peace that is{this is for you idiots that think im a stupid fuck talkin about an olive branch---study ya history}</td>
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<td></td>
<td>Kriminal minded….Crime doesn’t pay...............or DOES IT?? ?? ;)</td>
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<td></td>
<td>IP: Logged</td>
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<tr>
<td><strong>Ho ju</strong></td>
<td>posted September 04, 1999 11:09 PM</td>
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<tr>
<td>Frequent Poster</td>
<td>…?</td>
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<tr>
<td>Author</td>
<td>Topic: Any other sites like Makeshift arsenal</td>
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<tr>
<td>-----------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Lone</td>
<td>posted September 04, 1999 05:10 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hiya all,</td>
</tr>
<tr>
<td></td>
<td>Im just posting to see if there are any other top sites like Makeshift Arsenal...</td>
</tr>
<tr>
<td></td>
<td>I think this one would have to be the best cause its Australian, and has many things that are very easy to make...</td>
</tr>
<tr>
<td></td>
<td>So if anyone has any other sites that they know of like Makeshift Arsenal please reply to this (especially Australian ones)</td>
</tr>
<tr>
<td></td>
<td>Thanks. Lone</td>
</tr>
<tr>
<td>Zanx</td>
<td>posted September 05, 1999 08:32 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hi, this isn't really a reply to your question, but I was just wondering what the adress to the Makeshift Arsenal site was. I have been there before but the link I was using doesn't work anymore. Thankz</td>
</tr>
<tr>
<td>dlwdaw</td>
<td>posted September 05, 1999 12:10 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
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<tr>
<td></td>
<td><a href="http://go.to/explosives">http://go.to/explosives</a></td>
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<td>&gt;&gt;&gt; signature &lt;&lt;&lt;</td>
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<tr>
<td></td>
<td>they are the same I just thought making those names would be fun</td>
</tr>
</tbody>
</table>
My site covers things like arson, explosives, weapons, crime, etc. go to "http://www.50megs.com/nbk2000". It's jsut been but up so I don't have a lot of content yet but I put it up as fast as I can. If you like it, please tell others.
The content of this file details extremely dangerous and illegal methods of making tried and true improvised explosives and weaponry. The explosives are far from safe, and by doing so your life is at risk. This file requires common sense to understand and if you are lacking in that department you should look elsewhere. You hold responsibility for your own actions and nothing you see on this sight should actually be done for your own sake.

The original location of this file has been deleted time and time again due to "unacceptable information" so I decided to use the format of an easy download that can be freely distributed throughout the world wide web, so feel free to take this file or parts of, and add it into your site as long as proper credit is given. - --Lowry

Use the FORUM to ask any questions, also please sign the GUESTBOOK.

GUESTBOOK
FORUM

The below files do not contain as much information as the download, so I suggest if you intend on printing or looking over the entire file you use the download on the lower right. The download contains the complete version 1.2 with over 60 diagrams & photos and updated and revised text in a 2.8 MB .zip file.

if you have further problems you can view the full version on one page

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1.9 - permanganate flash  
1.10 - rifle primers  
1.11 - ammonium nitrate explosives  
1.12 - smokeless powder

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9.6 - cat products / taking the trophy

10. EASY TRICKS AND TECHNIQUES

10.1 - things that explode in fires
10.2 - making a bang with a match head
10.3 - sparkler in a bottle

11. BEFORE, DURING & AFTER HOMEMADE EXPLOSION PICTURES

Includes -
ANNM
acetone peroxide
hmtd
ANFO
Although I have done successfully near everything present (all photos are completely original to this file), I cannot guarantee the same for you for there are far too many variables and inconsistencies within products to ever be sure as to what you have. In short, nothing is completely safe and simple mistakes can lead to disastrous ends. I have neglected safety and taken shortcuts and all too often it turns back on me with unwanted occurrences. This experience has shown me that you can never trust anything and its this mistrust that keeps your eye on the ball and forget no safety precautions...

If you do choose to try any of the forementioned devices and explosives you must think through every step you take, for I have not done it for you, simple things such as not completely washing the HMTD or not completely sealing the rocket in the rocket launcher can lead to serious injury and death. The things presented here can be done safely but it has to be done with much thought and common sense.

Don't trust anything I've written as you don't know me. You don't have a clue as to who I am or what is my intent. Both legally and health wise you could not pick a more dangerous hobby than homemade explosives and weaponry. Above all Think for yourself, as it's your health your playing with.

~~~

**Lowry**

Revised & Updated version 1.2, easily printed with more methods.

DOWNLOAD

makeshift_arsenal.zip

2.8 MB
DOWNLOAD
icon and pointer sets of gun sights & desktop theme
updated - 410kb

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Glue molds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>posted September 03, 1999 05:13 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I was wondering? if you took rubber cement and mixed it together with ALOT of black powder so the powder is mixed evenly, how would it behave if it was lit? Like if you put it in a paper cup so it was molded into a block like structure.</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td>Saiyan Knight</td>
<td>posted September 03, 1999 05:35 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>It would act more like a incendiary than a low explosive.</td>
</tr>
<tr>
<td>Jolly Roger</td>
<td>posted September 03, 1999 06:20 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Would it work any better if you used a resin or a cyanoacrylate glue?</td>
</tr>
<tr>
<td>poison</td>
<td>posted September 03, 1999 07:05 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I have made a great incendiary out of smothing like that. Except i used smokless powder i put a small layer or smokeless powder on the table then put a thin layer of rubber cement over it and rubbed it with my hands till it wasn't sticky any more i burnt down a old dog house it this i stick it to the wall and like it. It put the whole thing up in flames. -Poison</td>
</tr>
</tbody>
</table>

IP: Logged
Ho ju  
Frequent Poster  

posted September 03, 1999 07:06 PM

Yeah i know it would not explode but would it burn fairly violently? or no? Is rubber cement still flammable even when it is hardened?

-------------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!


poison
Frequent Poster

posted September 03, 1999 07:40 PM

Yes it is not as flammable but yes. I would also like to find out a way to make black powder moldable like c-4 or ect of possable.  
-Poison

Ve He MT
Frequent Poster

posted September 03, 1999 07:42 PM

Anything is flammable, just so long as it has enough oxygen to burn with.  
You could burn cured rubber cement that was a block much like burning a piece of wood.  
But when u got to self oxidized mixtures (explosives, pyrotechnic compositions) then its all about getting the most efficient oxygen and fuel ratio. If u added a low explosives with rubber cement in the ratio of 10 parts rubber cement and 1 part low explosive and mixed it up so badly that u could se spots that didnt contain any low explosive then you would obviously have a piece of crap in your hands. But if u had 10 parts low explosive and 1 part (not tried, binder should only be enough to slightly dampen entire amount of low explosive) rubber cement and mixed it untill it was all the same colour (homogenized) then you would have a much better performing "block" of low order explosive, in general it is much harder for low explosives to explode when in the form as a block (as proven with a common estes engine which is a block of black powder) since the surface area burning is much less, plus the reaction isnt efficient since some of the energy must be used to burn the rubber cement.

I would not use cyaonacrylate types of adhesives since they will cure much too quickly (while mixing) unless it is so saturated with the glue that u have an inefficient mixture. Resins are much better for this type of thing. This type of mixing of low order explosives is best for rocket motors. If you simply wanted a block of low explo. for incendiary purposes, just add few percent of dextrin dampen with just enough solvent and press into a mould or make a ball with your hands. This will do just fine.  
No need for wasting expensive resins or glues.

~ VeHeMT
If you wanted a low order explosive in a plastique form it would be useless, unless it was something like armstrong explosive, but at 50 bucks a pound for red phosphorus its cheaper to make high explosives. And high explosives work much better in a plastique form anyways. Just find some way to plasticise a powder then apply the method to your high explosive. In Kitchen Improvised Explosives, the author uses molten wax, mixed with vaseline and something like naptha, as a plasticiser for some chlorate. Which was then to be used by detonating with a blasting cap.

~ VeHeMT

alright thans alot.

----------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

I wish red phosphorous was only 50 a pound, it is 80 bucks a pound plus all the shipping fees. that adds up to approx. 100 dollars

13(shipping hazard)  
5(UN boxing, whatevr the hell that means)  
80 (chemical)  
about 6 or 7 bucks for tax  

104 or 104 bucks, not including the other chemicals you want

----------------------

>> < signature <<<

this is the cops give me all your ...ahem.. books on making, ahem.. bombs.

;) ;-

visit my website.

http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun
Ho ju
Frequent Poster

how would you go about making armstrong explosive?

-----------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

Dlw daw
Frequent Poster

a wet mix of KCLO3 and red phosphorous. mix this wet, even using the newspaper method of mixing it will still have the potential to explode. when this is dry it will explode from somebody tapping it hard. this used to be used in toy cap guns, that was a long time ago

-----------------------
>> <> signature << <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:) ;-
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

IP: Logged

poison
Frequent Poster

Dlw daw, It still is used in the toy cap guns at least over here it still is.
-Poison

IP: Logged

Saiyan Knight
Frequent Poster

Yes, that is right. It's still used in toy caps but antimony sulfide is added.

IP: Logged

Ho ju
Frequent Poster

and it is VERY sensitive to heat shock and friction?

-----------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged
Pretty much, but not like nitrogen triiodine.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HydroChloric Acid oh sh7t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond007</td>
<td>posted September 02, 1999 10:14 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>ok heres the scenario i wanna get something to eat through metal like really quickly, i mean really quick.........what could i mix with hydrochloric acid?? please list as many things as Possible because i dont have ACCess TO A LOT OF STUFF i mean i cant do a quarter of the things yall do,................................also what can i use with hydrochloric to make an explosive??</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted September 02, 1999 10:24 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>you know what? i have noticed that most of the new people that come and use this forum are real assholes! they never once say please. never try anything on there own. all they think of is ME ME ME and TAKE TAKE TAKE! and it pisses me off!!!! So fuck all you newbies!!!!</td>
</tr>
<tr>
<td>poison</td>
<td>posted September 02, 1999 11:00 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I agree with Ho jo on this one. Fucker and im not going to answer your question. -poison</td>
</tr>
</tbody>
</table>
> sarcasm<
I'll answer your question.
mix nitric acid, sulfuric acid, and the SECRET ingredient, you skin, yep all you do is prepare a large beaker full of the stuff, then dip your hand in it. it will kill most of your nerves. now all you gots to do is hold a blasting cap in the TNYS(tri-nitro-your-skin)light fuse rip your arm off, shove it up your ass. hide behind cover. BOOM, the KeWlest BoMz I know. try it I have three times!

another thing to do is to mix gunpowder,blackpowder, and match heads with some acetone. make about 20 powdernut butter(the mixture)and jelly(nitromethane+smokeless powder).
eat them. you might have to mix them with mint or real jelly(strawberry) and real peanut butter(creamy, chunky if you want shrapnel), because of the bad flavor.
after eaten. get some KCLO3 and swollow about a pound of it. make sure to swallow some sulfur sublimed. now either A)shove afuse up your ass very far up your ass. or B)swallow alot of H2SO4. you will feel a slight burning inside. them hear a boom. and blood and guts will fly every where. since you will be blinded for a minute by the flash have somebody record it from a long distance. I have tried this one 10 times. it RuLeZ!
>sarcasm<
this should only be tried by the original author of this thread.

-------------------
>><>signature<<<<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun
to all the other peeps on this board yo no disrespect meant and i really hope theres no disrespect taken!!

knowledge is power you dont believe that hmpf try me 😊

Thanx a lot for your time and Help= )

------------------------

Knowledge Is Power

**PryoTek**
Frequent Poster

posted September 03, 1999 04:20 AM

U might of been around aslong as HOJO but he know more then you , you still want to fucking make thing out of bond moves

so HOJO and Posion are right u are a dick head 😊

**Ho ju**
Frequent Poster

posted September 03, 1999 02:20 PM

Props to all the people that support me…but who the hell is Ho Jo? it is ho JU. I got it off teh simpsons. Homer made a reference about bart being Homer Junior. or Ho Ju

------------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

**Ho ju**
Frequent Poster

posted September 03, 1999 02:22 PM

Bond, I doubt you are going to get an acid to eat through metal REALLY QUICKLY. even if it is "super powerful" you can get stronger HCl if you want to but it ain't going to do the trick. I forget is it the higher or lower the molar the stronger the acid?

------------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>User</th>
<th>Date and Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jolly Roger</td>
<td>September 03, 1999 06:16 PM</td>
<td>You can make Acetone peroxide with HCl, I think it is used as a catalyst for the reaction (Although Ho Ju, please correct me if I'm wrong 😊) And I have tried this a few times and it works really well. Acetone can be bought as nail varnish remover, and hydrogen peroxide can be bought as hair bleach.</td>
</tr>
<tr>
<td>Fetidal Fantasy</td>
<td>September 05, 1999 11:15 AM</td>
<td>Isn't percholic acid the strongest? I don't think it will eat though metal super fast though. Hmm, Ho Ju, that's interesting you got your name from TV, I always thought you were Japaness. Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! <a href="http://www.seduced.to/fuckyourmother">http://www.seduced.to/fuckyourmother</a></td>
</tr>
<tr>
<td>Ho Ju</td>
<td>September 05, 1999 11:07 PM</td>
<td>No I am not a jap! I am American!!!!! and look like an American too. Yeah I got it on the Simpsons. Any one watch that show? Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td>dlw daw</td>
<td>September 06, 1999 01:25 AM</td>
<td>I thought you were a jap too.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;&gt;&lt;&gt; signature&lt;&gt; &lt;&lt; this is the cops give me all your ... ahem.. books on making, ahem.. bombs. (;-) visit my website. <a href="http://learn.to/makeexplosives">http://learn.to/makeexplosives</a> <a href="http://fun.to/makeexplosives">http://fun.to/makeexplosives</a> <a href="http://remember.to/makeexplosives">http://remember.to/makeexplosives</a> they are the same I just thought making those names would be fun</td>
</tr>
</tbody>
</table>
You miss a few days, you miss alot... Where shall I begin?

1) The substance you want to mix with hydrochloric acid is nitric acid. Aqua regia, or nitrohydrochloric acid, is a mixture of 18 mL of nitric acid with 82 mL of hydrochloric acids. It will eat through metals, all of it. If you want something that will eat through metal al la "Aliens" then you better go to Hollywood cause ain't no acid that fast.

2) If you phrase your questions in a courteous and legibale manner (proper use of the English language and capitalization) you will get a better response.

3) I'll have to list TNYS for the newbies looking for easy explosives 😊

4) I always use that quote, "knowledge is power, power corrupts, corruption is evil, ignorance is bliss."

5) Hydrochloric acid is a catalyst in preparing acetone peroxide.

6) Now shad up.

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Is the method in the "kitchen improvised basting caps" text a reliable way to make SA?

Also, what is calcium carbide?

thanks
sharky

---

Saiyan Knight
Frequent Poster

posted August 15, 1999 09:34 PM

Yes this is a reliable way to make Double Salts. Also calcium carbide can be obtained at the hardware store. It is used in carbide lamps. You'll know when you have the right stuff, it looks like gravel. It is also used as a propellant in carbide cannons. Once calcium carbide comes in contact with water acetylene gas is released.

---

BioHaz
unregistered

posted August 16, 1999 10:22 PM

this may be dumb but...
what part of a hardware store would calcium carbide be in and is calcium carbide the straight name, or is there some other commercial name? thanks

---

Saiyan Knight
Frequent Poster

posted August 17, 1999 07:13 AM

It will be where the carbide lamps are. It is the fuel for them. And calcium carbide is the straight name.
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>sharky</td>
<td>August 17, 1999 10:12 PM</td>
<td>Do you think copper acetylide is more sensitive than silver acetylide?</td>
</tr>
</tbody>
</table>
| megalomania   | August 18, 1999 05:08 PM   | Rare is the hardware store that actually has calcium carbide, though. You can order some for those small replica cannons. In the lab we keep it in a small safety cabinet, the only cabinet that stays locked at all times.  
Visit Megalomania's Explosives and Stuff at  
http://surf.to/megalomania                                                                                                                                                                                                                                                                                        |
| poison        | August 18, 1999 05:25 PM   | Just wondering how do thos little cannons work?  
-pois                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Saiyan Knight | August 18, 1999 10:15 PM   | You first add a little fuel (calcium carbide) into the combustion chamber and add a little water. The water and calcium carbide react to form acetylene gas. Once the flint striker is pulled back and a spark is sent in to the combustion chamber BANG!                                                                                                                                                                                                                          |
| dlwdaw        | September 05, 1999 10:43 PM| mega why do you keep the calcium carbide in the safety cabinet?  
> > < signature < > <<  
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.  
:) ;-)  
visit my website.  
http://learn.to/makeexplosives  
http://fun.to/makeexplosives  
http://remember.to/makeexplosives  
they are the same I just thought making those names would be fun  
> > < signature < > <<
The carbide is kept locked up partly as it is a fire risk and because it is a security risk (everybody knows it goes boom in a cannon)

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
**Jolly Roger**  
*Frequent Poster*

You've probably heard this a million and one times before, but (please - for Ho Ju in relation to newbies 😊) what are the best attributes for a pipe to be used in a pipe bomb? (i.e. material, thickness, diameter, length, fuse placement, etc) At the moment I use thin copper pipe about 2 inches long, 3/4 inch wide, crimped at both ends with the fuse going into the side. Also what are the best explosives to use in pipes. (I use safety match heads mixed with black powder, and it works a treat, but i have been told you can do better).  
Cheers 4 any help! 😊

**Ho ju**  
*Frequent Poster*

I would like to clear up any misconception. i do not dislike the questions from new people to this forum in ANY WAY!!!! i love it that there is a place to discuss these subjects. I just do not like the attitude of some of the new people. that is all. So ask away.

--------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Username</th>
<th>Message</th>
<th>Date &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>and to answer you (i read this on another place on this forum) to make a better pipe bomb pour in some glue and coat the inside wall with it. them pour in some bb's and coat teh glue with teh bb's. Then make the pipe bomb in the regular way. The other post said that a common mistake is to place the shrapnal on the outside, but this does nto work well. to place it on the inside is much better. Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
<td>September 03, 1999 07:19 PM</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>I didn't find anything wrong with the post or with his &quot;attitude&quot;. The only thing i hate is when ppl post a msg saying something along the lines of this: I WANT TO MAKE SOME KEWL BOMB. WHATS THE BEST WAY (AND CHEAPEST BECAUSE IM POOR) TO MAKE A BOMB! I WANT TO SEE THE BIGGEST FUCKING EXPLOSION POSSIBLE. GIMME GIMME GIMME SIGNED SOME ASSHOLE Those are the kinds of msgs i dont like very much. Jolly Rogers question wasn't anything ever so demanding, just some curiosities about pipe bombs. ~ VeHeMT</td>
<td>September 03, 1999 07:31 PM</td>
</tr>
<tr>
<td>Ho ju</td>
<td>i was not making reference to jolly roger. i was to others on this forum. but it is done now. Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
<td>September 03, 1999 08:59 PM</td>
</tr>
</tbody>
</table>
the only way to get the kewl bombers off your ass is to tell them how to make a kewl bomb.

HerEz a hINt:

PuT SoMEz potsaastion nitart(MaCH HeDz)
In A kEwL MeTalz PiPe AnD pOuR sUm SuLFuR on it(iT iZ
BaTTeryZ AZcId)nOwz pUtz ThE OThErz ENd cAp On AnD ShAKez
it. dIZ a KeWl BoMz d00D

this is a stupid file I once saw on the net. the guy didn't mean for it to be a joke. when I had AOL somebody emailed it to me. tell all the damn KBD's(K3 Wl BoMeRZ d00Dz) to do this they might believe you. 😊

-------------
>> << signature << <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
they are the same I just thought making those names would be fun

megalamania
Administrator

posted September 06, 1999 05:48 AM

Actually that was a very interesting question. Most lamerz ask what goes in to a pipe bomb and not what design considerations go into the shape, size, material, etc. The bb's are nice for fragmentation, but we don't need that here... Using a nice heavy walled steel pipe with screw on end caps and a small hole for fuse is far better than crimping copper tubing. Incidentally, how does everyone extract the match heads? I heard recently that you can plop it in a solvent and let it loosen instead of scraping it all off by hand.

-------------
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IP: Logged
The easiest way to extract the potassium chlorate from match heads is to cut off the head, place them in a small glass jar, and pour enough hot water to cover the heads with a little extra water to spare. Let soak till it cools to room temp then filter the liquid through a coffee filter. Collect the liquid in another jar. Repeat the hot water treatment on the heads one more time and filter again. Take the combined extracts and evaporate in an oven till it forms a wet pasty mass. Then air dry to completion. Voila. Check my site at "www.50megs.com/nbk2000" for other stuff.

"The knowledge that they fear is a weapon to be used against them."

and there is not risk of the potassium chlorate igniting or anything like that in the oven? what temp do you suggest the oven be set at and for how long should the liquid stay in the oven?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Sodium chlorate weed killer is a good source, the only prob is that they mix it with a fire retardant (and they don't say what it is). It can be purified using filtration and evaporation though.

"Hitler bad, explosions good"
On Sept. 1, 1999 Paladin Press will take OUT-OF-PRINT their entire line of books on building homemade bombs, explosives, and improvised weapons. They will never be reprinted. They are doing this out of fear of the new Juvinial Crime Act which will criminalize the distribution of this kind of material.

Other publishers seem to be following Paladin's lead. Loompanics has ceased publishing all of their poisoning books and most explosives books.

The only book Paladin as left on building Pipe Bombs is a book titled: CAR BOMB RECOGNITION GUIDE. It has about 40 different designs. HIGHLY RECOMMENDED!

What is the loompanics site url? I might try to grab some before they stop selling (could be worth alot in the future..)

----------

ezekiel@cannabismail.com
"Hitler bad, explosions good"

You've got to be shiting me!
I just ordered the catalog from Paladin Press. That type of information should always be available. This just proves that the curent government of the UUnited States doesn't give a rats ass about the Constitution of the United States.

Does anyone have any comments about "RAgnars big book of homemade weapons"? It looked Ok and I intend to buy some books from paladin before they stop selling them, are ther any others anyone would like to suggest?

----------

ezekiel@cannabismail.com
"Hitler bad, explosions good"
I would suggest that you buy "The Poor Man's James Bond 1 & 2" by Kurt Saxon instead of "Ragnar's Big Book Of Homemade Weapons"...

/Survivor

Oh woas me 😊 While I never liked the caliber of books they sold much, they do have some goodies. I have Ragnars Big Book, and it is mildly useful, he just repackaged his other books. The Poor Man's James Bond is very good.

I'll bet the government is not calling it censorship. They are calling it a liability lawsuit. Censorship by any other name... Is still censorship.

------------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Below, you'll find a list of the titles to be dropped September, 1, 1999.

TECHNICAL MANUAL FOR THE M14
FALSE IDENTIFICATION
IMPROVISED HOME-BUILT RECOILLESS LAUNCHERS (video)
DECOY OPS
BREATH OF THE DRAGON
HOME-BUILT CLAYMORE MINES
HOMEMADE C-4
HOMEMADE C-4 (video)
HOMEMADE GRENADE LAUNCHERS
NEW AND IMPROVED C-4
RAGNAR'S ACTION ENCYCLOPEDIA OF PRACTICAL KNOWLEDGE AND PROVEN TECHNIQUES 1
RAGNAR'S ACTION ENCYCLOPEDIA OF PRACTICAL KNOWLEDGE AND PROVEN TECHNIQUES 2
RAGNAR'S BIG BOOK OF HOMEMADE WEAPONS
RAGNAR'S GUIDE TO HOME AND RECREATIONAL USE OF HIGH EXPLOSIVES
RAGNAR'S HOMEMADE DETONATORS
SEALS
LAW AND DISORDER
STUNTMAN
MAD AS HELL
SNEAK IT THROUGH
TERRORISM: THE SOLUTIONS
HOSTAGE TAKERS
IMPROVISED HOME-BUILT RECOILLESS LAUNCHERS
IMPACT FIRECRACKERS
BACKYARD ROCKETRY
BIG BANG
DEATH BY DECEPTION
DEATHTRAP!
GREAT AMERICAN DEER HUNT
EXPEDITIENT B & E
ADVANCED ANARCHIST ARSENAL
ANARCHIST ARSENAL
GUERRILLA'S ARSENAL
IMPROVISED LAND MINES
HEAVY FIREPOWER
ROLLING THUNDER
OUTLAW REPORTS
DEADLY BREW
EXPLOSIVE DUSTS
HOMEMADE SEMTEX
IMPROVISED EXPLOSIVES
POOR MAN'S TNT
PROFESSIONAL BOOBY TRAPS
21 TECHNIQUES OF SILENT KILLING
COMBAT RIFLES OF THE 21ST CENTURY
MASTER'S DEATH TOUCH
I suggest buying whatever books you want now before the bastards running the government take them away. The website they can be bought from is Paladin Press. (www.paladin-press.com)

I forgot, they also will send a catalog if you request one.

Warm up your scanners, this stuff should go online. Who has what? Who can organize webspace? Who can feel very responsible for all this but contribute absolutely nothing (= be the boss)?
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Date</th>
<th>Text</th>
</tr>
</thead>
</table>
| Ezekiel           | August 02, 1999 08:54 AM   | This is of course exactly how modern management goes... person with the least to offer becomes top... Anyway, I think we should all scan or type up (for those who can do it quickly) all our soon to expire form print books. Personally I have: Poor man's james bond I CAR bomb recognition manual Chemistry of powder and explosives the poisons handbook I don't have a scanner and my friends is bust - but I'll try to get them all on my site when I put it up. I also have loads of plans of weapons and traps, all hand drawn that I need to scan up - I'll be putting them on my site aswell, as I have had quite a few requests. --
| Ezekiel           |                           | [ezekiel@cannabismail.com](mailto:ezekiel@cannabismail.com) "Hitler bad, explosions good" |
| WashuuX           | August 03, 1999 06:53 AM   | I have: Smart Bombs Black Book Companion Anarchist Arsenal Advanced Anarchist Arsenal Middle Eastern Terrorist Bomb Designs Homemade Guns and Ammo Expedient B&E Kill without joy Silent Death + some Army Manuals I do have a scanner but I'll have to do my armed service soon, so my time will be limited. Anyway, I'll try to scan some stuff. |
| #Igenx#           | August 03, 1999 06:18 PM   | If anyone will scan in the pages I will: convert it into text, including any nessary cleaning up, format the images, and convert it all into HTML so it can be posted on web pages. I will take this by [email](mailto:) or a FTP site if anyone has one available. Igenx |
| WashuuX           | August 04, 1999 07:50 AM   | Maybe one could set up a free web account, geo or zoom or whatever and everyone who is involved with this project would get name and password for it. BTW, I just started scanning "Advanced Anarchist Arsenal". |
| Washuux           | August 04, 1999 05:31 PM   | "Advanced Anarchist Arsenal" is online at [www.geocities.com/HotSprings/Oasis/7983/](http://www.geocities.com/HotSprings/Oasis/7983/) I didn't know if geocities accepts zip-files so both files are .gif, just rename to .zip Hey #Igenx#, try your luck with this. These are pretty bad scans, the original ones are 942 kb per scan, so they were too big. Had to convert them, if you got any problems, mail me at washuux@hushmail.com, but I don't check this account very often. |
I'll give it a shot. I'll update you later.

Igenx

---

Just a thought about the page with those links on it - the background image is huge. You either need to reduce the resolution on it or shrink the it.

Igenx

---

Can some body scan any of the Poor man james bond books by kurt saxon? thanks -pois

---

Sorry about the big image, but I needed a good picture of me 😊 Don't bitch, you gotta load one time only. So, is anyone else here scanning, too?

---

I'm going to scan when I get a scanner, should be about three weeks.

-------------------------

czekiel@cannabismail.com
"Hitler bad, explosions good"

---

I've just checked out paladins website, there is no mention of any books being removed. The only book that they have removed recently (AFAIK) is "The Hitman". Whoever posted the original message, please give us a source.

---

I don't know who got the info originally, but here is the email I got when I asked the Paladin Press representative.

READ MESSAGE

INBOX  folder

---

Message:
3 of 3
Folder:
INBOX
From:
"Customer Service" service@paladin-press.com Add to Address Book
Filter Sender
Date:
Mon, 26 Jul 1999 09:41:01 -0600
Subject:
RE: Explosive books
Header:
Displaying Brief Header Show Full Header

Thank you for your e-mail. For various reasons -- including 1) the recent settlement of the Hit Man lawsuit against Paladin and legal precedent it has...
set, and 2) ongoing efforts by the U.S. Congress to pass legislation that will criminalize the distribution of information on explosives under certain circumstances--Paladin has been forced to carefully evaluate some of the books and videos we sell. In light of the current political and legal climate in this country, we have concluded that it is no longer feasible to publish or sell certain titles on explosives, demolitions, improvised weaponry, and self-defense. This has been a difficult decision to make, but we appreciate your understanding and continued support.

Below, you'll find a list of the titles to be dropped September, 1, 1999.

TECHNICAL MANUAL FOR THE M14
FALSE IDENTIFICATION
IMPROVISED HOME-BUILT RECOILLESS LAUNCHERS (video)
DECOY OPS
BREATH OF THE DRAGON
HOME-BUILT CLAYMORE MINES
HOMEMADE C-4
HOMEMADE C-4 (video)
HOMEMADE GRENADE LAUNCHERS
NEW AND IMPROVED C-4
RAGNAR'S ACTION ENCYCLOPEDIA OF PRACTICAL KNOWLEDGE AND PROVEN TECHNIQUES 1
RAGNAR'S ACTION ENCYCLOPEDIA OF PRACTICAL KNOWLEDGE AND PROVEN TECHNIQUES 2
RAGNAR'S BIG BOOK OF HOMEMADE WEAPONS
RAGNAR'S GUIDE TO HOME AND RECREATIONAL USE OF HIGH EXPLOSIVES
RAGNAR'S HOMEMADE DETONATORS
SEALS
LAW AND DISORDER
STUNTMAN
MAD AS HELL
SNEAK IT THROUGH
TERRORISM: THE SOLUTIONS
HOSTAGE TAKERS
IMPROVISED HOME-BUILT RECOILLESS LAUNCHERS
IMPACT FIRECRACKERS
BACKYARD ROCKERY
BIG BANG
DEATH BY DECEPTION
DEATHTRAP!
GREAT AMERICAN DEER HUNT
EXPEDIENT B & E
ADVANCED ANARCHIST ARSENAL
ANARCHIST ARSENAL
GUERRILLA'S ARSENAL
IMPROVISED LAND MINES
HEAVY FIREFORCE
ROLLING THUNDER
OUTLAW REPORTS
DEADLY BREW
EXPLOSIVE DUSTS
HOMEMADE SEMTEX
IMPROVISED EXPLOSIVES
POOR MAN'S TNT
PROFESSIONAL BOOBY TRAPS
21 TECHNIQUES OF SILENT KILLING
COMBAT RIFLES OF THE 21ST CENTURY
MASTER'S DEATH TOUCH
FIND 'EM FAST
MEDICINE CHEST EXPLOSIVES
KILL WITHOUT JOY!
ALCHEMIST'S SECRETS OF EXPLOSIVE CHEMISTRY
PROFESSIONAL STANDARDS FOR PREPARING, HANDLING, AND USING EXPLOSIVES
IMPROVISED RADIO DETONATION TECHNIQUES
BLACK BOOK COMPANION
DEADLY EXPLOSIVES (video)
DEATHTRAP! THE VIDEO (video)
EOD IMPROVISED EXPLOSIVES MANUAL
FEDERAL BOMB INTELLIGENCE
FUN, GAMES, AND BIG BANGS (video)
HANDGUN MUZZLE FLASH TESTS
HOMEMADE GUNPOWDER VIDEO (video)
IMPROVISED SHAPED CHARGES (video)
MARIJUANA FIELD BOOBY TRAPS
MIDDLE EASTERN TERRORIST BOMB DESIGNS
SPECIAL FORCES "A" CAMP MANUAL
STONE R MACHINE GUN (video)
TERRORIST WEAPONS & EXPLOSIVES (video)
45 ACP SUPER GUNS
HIGHLY EXPLOSIVE PYROTECHNIC COMPOSITIONS
CAR BOMB RECOGNITION GUIDE
MAGICIAN'S ARSENAL
PIPE AND FIRE BOMB DESIGNS
EXPLOSIVE PRINCIPLES
DEATH DEALER'S MANUAL
TERRORIST EXPLOSIVE SOURCEBOOK
VOICES AND VISIONS
FMX: THE REVISED BLACK BOOK
SPECIAL FORCES GUERRILLA WARFARE MANUAL
FIELD KNIFE EVALUATIONS
EQUIPMENT PERFORMANCE REPORT: REVOLVERS
EQUIPMENT PERFORMANCE REPORT: SHOTGUN
EVERYMAN'S GUIDE TO FINANCIAL SURVIVAL
HOW TO DESTROY BRIDGES
PRINCIPLES OF IMPROVISED EXPLOSIVES

Sincerely,
************************************************
Paladin Press Customer Service
(303) 443-7250 voice  (303) 442-8741 fax
PO Box 1307,  Boulder,  Colorado  80306
Web site:  http://www.paladin-press.com
************************************************

> -----Original Message-----
> From: Igenx [mailto:igenx@iamit.com]
> Sent: Monday, July 26, 1999 2:50 AM
> To: service@paladin-press.com
> Subject: Explosive books
> 
> Is it true that after Sept 1 your books on the preparation of explosives
> will no longer be available? If this is the case, for what reason?
> I hope this nothing but an unfounded rumor.
> Igenx
> 
> Free email with personality! Over 200 domains!
> http://www.MyOwnEmail.com
>

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Use of this site signifies your agreement to the My Own Email Subscriber Agreement.
My Own Email™(MOE™) and it’s associated services are property of QCS Inc.

Washuu X
unregistered
posted August 07, 1999 04:18 PM

Another book online. I emailed Paladin recently and I received that list, too.
Can anyone comment on the following books? Are they good or bad or would you even be so kind
and scan them? Gotta order some sh*t before it’s out of print.
- Deathtrap
  Federal Bomb Intelligence
  Guerilla’s Arsenal
  Improvised Landmines
-
**Igenx**
Frequent Poster

posted August 07, 1999 08:19 PM

Washuu X-
I just tried again to open those zipped files. No matter what I try I always get a "this is not a valid archive". What software did you use to zip the pages? WinZip just will not accept these files.

**Igenx**
Frequent Poster

posted August 07, 1999 08:20 PM

Does anyone have a copy of "Medicine Chest Explosives" scanned in? Igenx

---------------------
Information needs to be free-killed the f*ckers that try to stop it's publication!

This topic is 2 pages long: 1 2

All times are ET (US)

Administrative Options: Close Topic | Archive/Move | Delete Topic

Contact Us | The Forum

Powered by: Ultimate Bulletin Board, Version 5.38
Washuu's little library

Advanced Anarchist Arsenal 1-20
Advanced Anarchist Arsenal 21-50
middle eastern terrorist home designs

Namenlos

Could someone please tell me the method of making RDX out of AN, acetic anhydride, and formaldehyde? How much AP would it take to detonate 50 grams of RDX? Should the RDX be compressed alot or loose?

thanks
sharky

why does it matter you will have hell getting acetic anhydride.
and if you know a source for acetic anhydride could you PLEASE tell me. I will type the formula up as soon as I find my alchemist book. I know its here somewhere...

-----------------
>> <> signature <> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-) visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives they are the same I just thought making those names would be fun
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Flash Bang Grenades</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Andy</strong></td>
<td><strong>Moderator</strong></td>
</tr>
<tr>
<td></td>
<td>posted September 06, 1999 03:39 AM</td>
</tr>
</tbody>
</table>
|              | Does anyone have any information on flash-bang grenades? Possibly instructions or procedures in the production of these devices?  
|              | Andy-  
|              | --------------------------  
| **nbk2000**  | **Frequent Poster**        |
|              | posted September 06, 1999 05:09 AM  |
|              | I do a lot of searching the the US Patent database at "www.uspto.gov" for things like this and I've seen a patent from a major police supplier for flash bangs that you could make real easily. According to the patent you take 3/4 ounce of double base powder (IMR type), mix it with up to 20% aluminum powder, place it in a light weight plastic tube, and detonate the whole thing with a small .22 magnum type detonator. This is the same as the cops buy from this company.  
|              | --------------------------  
|              | "The knowledge that they fear is a weapon to be used against them." |
| **Saiyan Knight** | **Frequent Poster**         |
|              | posted September 06, 1999 10:17 AM  |
|              | I've have bought some flash-bang grenades before. They have the power of a M-80 and they explode with a bright flash and are perfectly legal. I believe they contain flash powder, I'm not sure which type though. They could contain chlorate or permangante type flash powder. |

IP: Logged
just an idea but how about 20cc of strong flash in a strong plastic container, this'd make one hell of a bang and flash.
(note: only one end of the container would be open, to give a directional flash. You could use a fully sealed container with more flash to make a more grenade style thing)

-----------------

ezekiel@cannabismail.com
"Hitler bad, explosions good"

I heard that a permanganate flash should/must be used. Is this correct?

Andy-

-----------------

**Author** | **Topic: Potassium Chlorate against Potassium nitrate**
---|---
poison
Frequent Poster | posted September 03, 1999 07:45 PM

Witch one would be better to use for blackpowder? I know if i use Potassium Chlorate ir will be a lot more sensative but witch one will be more powerfull?
-Poison

Ve He MT
Frequent Poster | posted September 03, 1999 07:51 PM

Just stick with nitrate, there is no need for potassium chloride and it would be dangerous aswell. If you have potassium chloride make flash powder instead. Screw black powder, as BP requires alot of work to be of high quality and is only worth it if u manufacture a lot at a time.

~ VeHeMT

Saiyan Knight
Frequent Poster | posted September 03, 1999 07:59 PM

Yes, veheMT is right. You'll be better of with using potassium nitrate instead for it is cheaper. Also the potassium chloride is a more powerful oxidizer but when mixed with solid fuels it is more sensitive just like you said.

Ho ju
Frequent Poster | posted September 03, 1999 09:04 PM

which would be a better flash powder composition: Aluminum with potasium chlorate Aluminum with potasium perchlorate

---------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Ve He MT
Frequent Poster
posted September 03, 1999 09:25 PM

Should be no noticeable difference.

IP: Logged

poison
Frequent Poster
posted September 03, 1999 10:08 PM

Correct me if im wrong but if you add sulfur to the chlorate and the AL it makes a stronger flash but is also more sensitive.
-Poison

IP: Logged

Ho ju
Frequent Poster
posted September 03, 1999 10:42 PM

yeah that is what i have picked up while i was reading poison. If you add sulfur to the mix it becomes more unstable but it burns faster.
what is the difference between a perchlorate and a chlorate?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

dlw daw
Frequent Poster
posted September 03, 1999 11:04 PM

the CLO3 is sulfur sensitive. and CLO4 is not that sensitive when mixed with S. if i had a choice I would use CLO4,

------------------
>>&signature<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:));-)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

IP: Logged
yeah next weekend i am going to send out and order to pyrotek for a pound of aluminum, a pound of potassium perchlorate, and 20 feet of visco fuse (1/8th inch) I am goign to mix up some flash powder. What do you suggest i add to this mix to give it a color when it ignites? and in what ratios are the chems?

-----------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Poison
Frequent Poster

posted September 04, 1999 12:33 AM

Im pritty sure copper sulfate makes blues blue. Im not sure about the ratio your just going to have to take a small batch of flash and try diff ones unless some one else knows.
-Poison

Poison
Frequent Poster

posted September 04, 1999 12:42 AM

Oh yeah i almost forgot. If you want a good flash this ones great its the best flash for salutes i wouldn't use it in a flash pot tho . Good thing i was using a cheap bottle cap type flash pot well here it is its called "Rumble flash"

KClO4
55%
Aluminium Dark Pyro
30%
Antimony trisulfide Dark Pyro
15%

-Poison
70/30 perc. Al. is the normal.
you shouldn't order all that. if they are smart they will reject your order
and call the BATF (only if they really want to). I suggest you go to a
paint store for powdered Al. so you wont get into trouble.
the perc. and fuse is okay. but try to order some other things such as
some 3" shells, some sulfur, dextrin, barium nitrate(for a green flash),
KCLO3, one of the premixed smoke mixes that only need
KCLO3(potassium chlorate). they can be useful, and if you do that they
will think you have real PYRO intentions, not for making bombs, I know
it can be fun, but for to be safe(and not being called by the BATF) order
a lot of other pyro chemicals, even if you dont know what it is, here is
the color chart

strontium----red
potassium----lavender-blue
sodium-------yellow
copper-------blueish green(thats what copper(2) sulfate makes)
barium--------green
permenganate----purple

here are the metals

antimony
aluminum
titanium
magnesium
magnalium(50/50 Mg. / Al.)

oxidisers

potassium anything
sodium anything
copper anything
strontium anything
barium anything

feuls

all metals
sulfur
etc.

binders

red gum
dextrin
methylene chloride
shellac

I am very tired and if I am wrong or had something missing(this is from
pyroteks list)
tell me. and is zinc metal? when I am tired I cant think

----------------------
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
)
;)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

Im gussing it is because i have heard my friends talking about using zinc in there flash.
-Poison

you bring up a good point. that would suck to have the batf show up at my house wondering why i got chemicals for making flash powder. But the catalog is based around fireworks making, (and i think you use flash powders in some fireworks) and modle rocketry so i do not think they will be to suspicius. and yes zinc is a metal. you can mix zinc with hcl to make "H" gas

-------------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Now that i think of it pyrotek would not be suspicius. Magicians use flash powder in magic tricks. It is used for special effects on stages and shit. Do you need a liscense to have flash powder? cause you can buy it in some magic shops. (flash powder is not used strictly for bombs)

-------------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

You don't have to worry about pyrotek calling the BATF. I order from them all the time without any problem.
**Potassium Chlorate against Potassium nitrate - The Explosives and Weapons Forum**

**Ho ju**

**Frequent Poster**

posted September 05, 1999 11:09 PM

yeah that is what i thought. thanks.

-----------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

**Ho ju**

**Frequent Poster**

posted September 06, 1999 01:12 PM

Sayian do you use cash check credit card or money order to order from pyrotek?

-----------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

**Saiyan Knight**

**Frequent Poster**

posted September 06, 1999 08:29 PM

I use money orders.

**IP: Logged**

**ezekiel**

**Frequent Poster**

posted September 07, 1999 03:58 PM

Potassium perchlorate is a "better" oxidiser - it contains more oxygen. potassium chlorate is a "more violent" oxidiser - is is much faster about it.

Neither one is more or less dangerous, but chlorate doesn’t do as well with sulphur.

If you are making pipe bombs use perchlorate (assuming you use good strong pipes) as it will create more force and pressure.
If you are making M-80's or thunderflashes use chlorate for a sharper louder bang and more powerful shockwave.

-----------------

ezekiel@cannabismail.com

"Hitler bad, explosions good"

**IP: Logged**

**Ho ju**

**Frequent Poster**

posted September 07, 1999 04:10 PM

can you use cash?

-----------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

**IP: Logged**
Ve He MT  
Frequent Poster

I’ve used cash before, its good so long you are aware of the risk that it may not "get" to the intended recipient. So in short cash should be fine for small orders (lets say 20 bucks or less unless you are willing to part with more money). Use larger bills (eg. use 1 5 dollar bill instead of 5 five 1 dollar bills) because if it becomes apparent there is cash inside your letter somewhere along the way it becomes much more vulnerable. If your envelope is a little transparent add a few pieces of paper to make it harder to see the money. None of this is necessary but your most likely better off doing it if you plan on ordering by cash.

Saiyan Knight  
Frequent Poster

Ezekiel, Potassium chlorate is a little bit more dangerous than potassium perchlorate. Potassium chlorate tends to give up its Oxygen easier.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: bookz</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlw daw</td>
<td>posted September 08, 1999 07:09 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td><a href="http://members.xoom.com/goodbookz">http://members.xoom.com/goodbookz</a> lives. I just made it up I don't have any 'bookz'(online books, like 'warez'). hope you like it. I will start typing up the bookz on the weekend.</td>
</tr>
</tbody>
</table>

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>>& signature<<

this is the cops give me all your ...ahem.. books on making, ahem.. bombs.

;) ;-

visit my website.

http://learn.to/makeexplosives

http://fun.to/makeexplosives

http://remember.to/makeexplosives

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: bookz</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbk2000</td>
<td>posted September 08, 1999 08:34 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

I'm glad you like the idea of a booz site. But please don't forget to give credit for the name "bookz" to who it belongs. Me. Of course anyone can use it as long as it's for free electronic copies of the complete book (including pictures). If someone is using the term for their altered version of a book, then it's not a "bookz", it's their idea of what the bood should have been, but not what the book is like. I have a few bookz at my site [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000) in the explosives and heavy weapons section.

-------------

"The knowledge that they fear is a weapon to be used against them."
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: analite</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nitrochem</strong></td>
<td>posted September 05, 1999 09:24 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td><strong>Does anyone have experience with analite (an explosive mix of gasoline and dinitrogen tetraoxide (N2O4))?</strong> How unstable is it? I'm trying to condense NO2 to make the N2O4 but it takes a lot of gas to make a little liquid, any better ideas?</td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td>posted September 06, 1999 05:22 AM</td>
</tr>
<tr>
<td>Administrator</td>
<td><strong>Getting low temperatures for N₂O₄ and keeping it there is probably beyond the level of most, it does sound very interesting though. I'll bet you could make a cold slurry of dry ice and gas then add your stuff.</strong></td>
</tr>
<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
</tr>
<tr>
<td><strong>ezekiel</strong></td>
<td>posted September 09, 1999 02:22 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td><strong>-Warning, schoolboy humor coming up- Anal - ite analite ANALite heh heh heh.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>----------------------</strong></td>
</tr>
<tr>
<td></td>
<td><strong>--</strong></td>
</tr>
<tr>
<td></td>
<td><strong><a href="mailto:ezekiel@cannabismail.com">ezekiel@cannabismail.com</a></strong></td>
</tr>
<tr>
<td></td>
<td>&quot;Hitler bad, explosions good&quot;</td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
</tr>
<tr>
<td>Author</td>
<td>Topic: Silver Nitrate???</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>DaRkDwArF</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted September 10, 1999 01:57 AM</td>
</tr>
</tbody>
</table>
|             | I recently acquired 300ml of Silver Nitrate, what can be done with it???

<table>
<thead>
<tr>
<th>nbk2000</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td>posted September 10, 1999 02:57 AM</td>
</tr>
</tbody>
</table>
|             | It can be used to stain someone's skin coal black. But it will also corrode the skin too. It used to be called "lunar caustic". It could also be used to make silver fulminate, but since it's soooo sensitive, I wouldn't even try making it. Too dangerous. Make your own film instead?

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: TO MEGALOMANIA!!!!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>DaRkDw ArF Frequent Poster</td>
<td>posted September 10, 1999 09:04 AM</td>
</tr>
</tbody>
</table>

I had an idea, do you think you could add another area so people can tell us when they update their pages, it would help a lot, you could tell us what's new to your site, and if you changed your URL etc... What do you think???

IP: Logged
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: NO2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>eze kiel</strong></td>
<td>posted September 09, 1999 02:16 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>would heating KNO₃ in air decompose it to NO₂ and KO₂?</td>
</tr>
<tr>
<td></td>
<td>If not, how about its decomposition in chlorine -</td>
</tr>
<tr>
<td></td>
<td>2KNO₃ + Cl₂ --heat--&gt; 2NO₂ + 2KCl + O₂ ???</td>
</tr>
<tr>
<td></td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>&quot;Hitler bad, explosions good&quot;</td>
</tr>
</tbody>
</table>

| **Ho ju**    | posted September 09, 1999 04:21 PM                                        |
| Frequent Poster | when you ask about heating kno3 and what it yields. where do you          |
|              | get the no2 and the ko2? that is 4 oxygen atoms. kno3 has                 |
|              | only...well 3. What am i missing?                                         |
|              | ---                        | Knowledge is power, power leads to corruption, corruption is a crime,    |
|              |                            | crime doesn't pay. So if you know to much you will go broke!!           |

| **nbk2000** | posted September 09, 1999 11:35 PM                                        |
| Frequent Poster | When postassium nitrate is heated, it decomposes into potassium           |
|              | nitrite and oxygen.                                                      |
|              | ---                        | "The knowledge that they fear is a weapon to be used against them."      |
I see 3rd year chem just knocks people out cold, I'll try to be softer next time.
The eq^n does balance (if not I am even madder than I like to admit)
so trust me on that one.

-------------

- - - - - - - - - - - - - - - - - -

- -
ezekiel@cannabismail.com
"Hitler bad, explosions good"

Thanks Mr K2
Author: dlwdaw  
Frequent Poster

Posted September 12, 1999 09:02 AM

Go to [www.firequest.com](http://www.firequest.com) it rules. to name a few it sells

fuse(red or green)

ematches(crimp these onto a blasting cap and you have an elec. cap)

M-80's(sold to scare birds away they are end fused)

smoke bombs(the three minute one coughs out 90,000 cubic feet)

bird bombs(flying M-80's)

12 guage pistol

m203 and m79 grenade launcher(the 37mm. not 40mm.)

HV-5 booby trap system

G.I trip wire(7 bucks a roll which is extremely expensive I have bought 15 rolls from a gun show for 1 buck a roll)

exploding target(very very cool, one time I forgot my glasses and couldn't see the target so I got about 4 feet away and shot it. it knocked me on my ass)

stun guns

throwing knives

2 part incendiary mix when you mix it, it catches on fir within a minute

you will have to request a free catalog because they have not finished their online catalog.

like I said this place is very cool.

:-)

---------------------

>> <> signature<> <>

this is the cops give me all your ...ahem.. books on making, ahem..
bombs.
(;);)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun
**killer_elite**  
**Frequent Poster**

**Topic: Ragnar's Big Book of Homemade Weapons**

Sorry to be the guy to bring you the bad news but Ragnar's Big Book of Homemade Weapons is GONE. I ordered 5 copies and they told me they have no more and it won't ever be reprinted. Here are some other titles that are GONE as of right now:

- Pipe & Fire Bomb Designs
- Ragnar's Homemade Detonators
- Smart Bombs
- Anarchist Arsenal Vol. 1
- Ragnar's Home and Recreational Use of High Explosives
- Guerilla's Arsenal
- Hit Man: Tech Manual for Indepenant Contractors

I'm sure there are more, these are just the ones I tried to order as a dealer of Paladin titles. You might write them an e-mail before you order to see if they still have what your looking for. The only book left that has a shit-load of homemade pipe bombs in it is the Car Bomb Recognition Guide. They still had a few copies left.

---

**Feticidal Fantasy**  
**Frequent Poster**

posted July 28, 1999 01:35 PM

Well im sure most of us known how to make all the shit in those books anyways.. have you ever bought any books before? if so, will you scan me some pages?.. just incase i can pick up a few tips..

-------------

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!  

---

**IP: Logged**
I agree that most of the stuff in those books is quite simple, but they are still good for new ideas and inspiration I find, seeing other peoples workings. A lot of the stuff in them is unreliable anyway, If I do want to make something I see in one of those books, I’ll make my own version.

------------------

ezekiel@cannabismail.com
"Hitler bad, explosions good"

I have ragners big book and am scanning it in. The section on making a homemade mortar is on my site in the heavy weapons section. I'll have the rest scanned in as I get the time.

------------------

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Gellex</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bandit</strong></td>
<td>posted September 10, 1999 03:28 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I'm not sure if this is the right name i know the gell bit is right. This is a mixture of nitrroglycerine (spelt wrong) and ammonium nitrate. It is used for blasting under water because tube of it have been washed up on beeches by my house. I was wondering if any one has heard of this or knows how to make it or has any info on it. name could be gellex or gellite.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>Blaze</strong></td>
<td>posted September 11, 1999 12:34 AM</td>
</tr>
<tr>
<td>unregistered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>probably thinking of &quot;gelignite&quot; it contained AN, nitroglycerine and gelled with nitrocellulose. To the best of my knowledge its no longer used.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>eze kiel</strong></td>
<td>posted September 11, 1999 02:50 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is blasting gel nitro glicerine with nitro cellulose dissolved in it ?</td>
</tr>
<tr>
<td></td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>eze <a href="mailto:kiel@cannabismail.com">kiel@cannabismail.com</a></td>
</tr>
<tr>
<td></td>
<td>&quot;Hitler bad, explosions good&quot;</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>Blaze</strong></td>
<td>posted September 12, 1999 12:42 AM</td>
</tr>
<tr>
<td>unregistered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;blasting gel&quot; seems to be a pretty general term, with many explosives containing the word &quot;gel&quot;. water gels and power gels are fuel/oxidizer emulsions, even &quot;gelignite&quot; is a general term which came with more than one variant. While i expect NG + NC would be an explosive I dont know of any that contain only those components, usually they will include an oxidizer, maybe it has something to do with oxygen balance and toxic fume byproducts (or power for the $) i dont know..</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Username</td>
<td>Post Date</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>ezekei</td>
<td>posted September 12, 1999</td>
</tr>
<tr>
<td>Blaze</td>
<td>posted September 13, 1999</td>
</tr>
<tr>
<td>Bandit</td>
<td>posted September 13, 1999</td>
</tr>
<tr>
<td>Bandit</td>
<td>posted September 13, 1999</td>
</tr>
<tr>
<td>AlShoot</td>
<td>posted September 13, 1999</td>
</tr>
<tr>
<td>ezekei</td>
<td>posted September 13, 1999</td>
</tr>
<tr>
<td>Author</td>
<td>Topic:   Gelignite.</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>poison</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>July 29, 1999 03:22 AM</td>
</tr>
<tr>
<td></td>
<td>Does anybody know if this is real or cook book garbage. Its big to type but ill give a link where it is found. If you could go check it out. Thanks -pois</td>
</tr>
<tr>
<td></td>
<td>Heres the page <a href="http://members.xoom.com/rdxdude/gelignite.txt">http://members.xoom.com/rdxdude/gelignite.txt</a></td>
</tr>
</tbody>
</table>

| Saiyan Knight        |           |
| Frequent Poster      | July 29, 1999 08:06 AM | | |
|                      | It may work, but it would be all that powerful because it is a low explosive similar to that of black powder. It seems like to me that this explosive would need a strong igniter and has to be confined. |

| Saiyan Knight        |           |
| Frequent Poster      | July 29, 1999 08:09 AM | | |
|                      | Oops, what I meant was that it wouldn't be all that powerful instead that it would be all that powerful. |

| Jolly Roger           |           |
| Frequent Poster       | September 13, 1999 06:02 PM | | |
|                      | Glider-yes it does work!! A recipe similar to this was one of the first I tried, and I thought what a load of bullshit! |

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Welcome!</th>
</tr>
</thead>
<tbody>
<tr>
<td>megalomania</td>
<td>posted July 12, 1999 11:20 PM</td>
</tr>
<tr>
<td>Administrator</td>
<td>Welcome to the new version of the Forum! There are now a host of nifty features designed to make this forum even better. Please read the FAQ to see how you should operate here.</td>
</tr>
<tr>
<td>poison</td>
<td>posted July 13, 1999 01:36 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Looking nice Mega</td>
</tr>
<tr>
<td>p0rNs7aR</td>
<td>posted July 13, 1999 06:37 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>hmmm i really like this board... but does it have ban mods??</td>
</tr>
<tr>
<td>mosaz</td>
<td>posted July 17, 1999 09:30 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>NICE!!!!!!!!!!!!</td>
</tr>
<tr>
<td>Andy</td>
<td>posted July 18, 1999 05:26 PM</td>
</tr>
<tr>
<td>Moderator</td>
<td>Pretty Cool. Hate the pop-up banners.</td>
</tr>
</tbody>
</table>

IP: Logged
glider, what does df stand for? dickf**cker perhaps (sorry 'bout that couldn't resist it, he had it coming!!)

mega, this board rocks but pity about the pop ups?! Cheers anyway 😊

The pop-ups are an unfortunate consequence of having a free site like this. At least they are not as bad as an omnipresent banner because they can be dispatched with a click. I tried once upon a time to use several different "pop up killers" but I could never get any to work. Anybody have a useful one? If you have never heard of one of those... It is a very small program that automatically closes any page that pops up. A better one would get rid of 'em before you know its there. Others make it impossible to blind link you with the status bar and stop automatic forwarding of web pages

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Heh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ve He MT</td>
<td>posted September 12, 1999 12:43 PM  Hey Glider, looks like you became a member overnight by posting several useless msgs. heh Made me have to look at old topic's with nothing new. Please don't say anything if its not important.</td>
</tr>
<tr>
<td>m os a z</td>
<td>posted September 12, 1999 01:20 PM  VeHeMt is right. I just thought the same when I read Gilder's posts</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>posted September 12, 1999 02:21 PM  I think we should ban his ass for being a dick on our board. If someone is willing to spam our board once without any repercussion for his conduct what stops him from doing it again. Heh in short ban his ass.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted September 12, 1999 02:33 PM  I second that motion! Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>
Yep. ME TOO. I agree. Correct. Me2. (I'm clowning Glider just in case you didn't catch the sarcasm.)

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

---

Yea b a n h is a s s. it t ook m e d a m n n ear a w ee k t o b e c o m e a m e m b e r, h e p o s t e d u se le s s t h in g s l i ke a s in g le l e t t e r t o t h e w e l c o m e t h in g m e g a l o m a n i a p o s t e d a t t h e b e g i n n i n g o f t h e f o r u m.

> > < > s i g n a t u r e < > < <
this i s t h e c o p s g i v e m e a l l y o u r ...a h e m .. b o o ks o n m a k i n g , a h e m .. b o m b s. ; ) ; - )
visit m y w e b s i t e.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun.

---

NBK2000 -
In reference to spamming, that email I 'sent' you wasn't meant for you. I have outlook express and it autofills with the latest add. book entry, which was you as I replied to your message! Sorry 'bout that!
I also think spammers (and complete spooners) should have half a pound of whatever shuvved up their jacksie!!!!!
I have deleted all of those less than informative, one word, off topic posts that Glider has been so thoughtful in typing for our edifications. If this persists I will delete his member name so he can start again. Then the big red rubber stamp will brand CENSORED across his butt if he does not get the hint.

One or two mistaken posts will be let slip by, but not 13 with only one more than 1 sentence 😂

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Rubber stoppers</th>
</tr>
</thead>
</table>
| **sharky**        | posted September 06, 1999 05:48 PM | Would nitric acid or NO2 eat through those hard black rubber stoppers for flasks?  
|                   |                        | thanks sharky  
| **Saiyan Knight** | posted September 06, 1999 07:56 PM | Yes sir indeed.  
| **nbk2000**       | posted September 09, 1999 05:21 AM | Viton rubber stoppers are acid resistant. They're the green colored stoppers. They cost more but they're worth it.  
|                   |                        | "The knowledge that they fear is a weapon to be used against them."  
| **megalomania**   | posted September 14, 1999 06:06 AM | Nitric acid will not eat through the rubber stopper right away. If left in constant contact for a couple of hours it will be eaten and can contaminate the acid. Something like teflon would be resistant as well.  
|                   |                        | Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)  

**IP:** Logged
I tried making nitric in a distilling flask using a rubber stopper to hold the thermometer (curious) and the rubber started melting into a blackish liquid and getting into the mix. Needless to say my acid was fucked. Had to throw it away.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
I knew this is very similar to an other topic we had. It's because you all get your sulfuric acid from drain openers, but I'm not. So I looked for an synthesis. I will try to explain it to you and you'll say me if it's wrong or not. 1. I take some sulphur and burn it. 2. now I lead the gas through an catalyst. which is here glowing copper wire (I really don't know how to do this!! but I will so) the gas must be cooled now and it must be introduced in water. Now you got con. sulfuric acid. I hope please any comments: is it right or not or whatever!!!!!

I don't know if it'll work with copper wire but I've seen this process with iron oxide as catalyst. It's pretty simple, you burn the sulfur (I suppose you can just put the sulfur in a tin and put a blowtorch or something below, but don't quote me on that) to get SO2, sulfur dioxide and lead it over the heated catalyst (a stuffed glass tube heated with a bunsen burner or something from below) where it's oxidised with oxygen from the air to become SO3, sulfur trioxide. And if you introduce this into water, you'll get H2SO4. SO3 is better soluble in acids than in water, so once you got some acid, you might use this in further runs. A crappy ASCII drawing follows.

```
\_\_\_\_\_\_\_\_\_\_\_\_\_
| [ catalyst ] |
| [ \ /    ] |
| [ /     ] |
| [ \ \   ] |
| [ /  \   ] |
| [ /    ] |
\| [ sulf] flame | water |
| [ _ur_] |
\| [ another flame ]
```

WARNING! This will definitly stink your house up, SO2 and SO3 are nasty stuff. Only do this outside.
F**K, it's messed up. Well, try to figure it out.

hmm which concentration would the sulfuric acid have ?????? Can every acid be used for the synthesis?? would the acid turn then to H2SO4 after the SO3 is introduced into it? It would be nice if you could mail me a just a little drawing to Torph2@gmx.net just a little, hm??!

------------- sorry for all the questions, but it's because until yet i can't get my hands on H2SO4 😞

This is basically a recreation of the contact process and one I had better get working on soon (I just found a source of sulfur, lets hope its a good one).

In the beginning there ws a pan of sulfur being burned by a torch, it keeps on burning and may need scorched every now and again.

The fumes travel up, up, up, and away into a metal funnel just above the burning sulfur. This in turn leads into a jar of calcium chloride (dry rite from hardware store) which removes nasty water that will affect later reactions.

Now our dry sulfur dioxide travels through the tunnel o'catalyst. This is a metal pipe stuffed with rusty steel wool (near as I can figure just keep it in a hot damp place for awhile and burn some more to make yet more rust) which is very gently heated by flame, not too hot, not too cold, but just right...

Now the nasty sulfur trioxide gas travels into some water where it... does nothing. In reality the SO3 reacts with sulfuric acid (that you have to add yourself) and forms super sulfuric as I call it, H2S2O7, which reacts readily with water to form 2 parts of sulfuric acid.

Eventually you will end up with super fuming 120% sulfuric acid that you can add to water and make whatever concentration you want.

I do hate those synths that need what you are making to make what you need. The sulfur trioxide does eventually react with water to make a little acid, then with that acid to make more acid, but it will waste a bunch.
The only thing I have yet to puzzle out is how to create a net vacuum to suck up the gas from burning sulfur (it won't just waft into the funnel).

--------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

**nbk2000**
Frequent Poster

posted September 06, 1999 06:27 AM

To suck the SO3 into your acid use a water aspirator bottle. That's a large (several gallons at least) bottle with a 2 hole stopper in it with 1 hole connected to the 2 hole stopper in your acid collection flask and the other hole connected to a tube that goes from the bottom of the aspirator bottle, out through the stopper, and into a sink below the level of the bottle.

**ezekiel**
Frequent Poster

posted September 06, 1999 01:50 PM

couldn't you use H2SO4 to dry the SO3?

--------------
_ezekiel@cannabismail.com_
"Hitler bad, explosions good"

**Igenx**
Frequent Poster

posted September 08, 1999 06:53 PM

Doesn't the burning of black powder make SO2? Couldn't this be used for this?

**dlwdaw**
Frequent Poster

posted September 08, 1999 07:06 PM

I know where to get sulfur. it is sold at hardware stores as a defungicide. this isn't some outdated advice from a cookbook. i saw this when i got my sodium nitrate(nitrate of soda).
I get mine at Rx pharmacy the medicinne shoppe, this is sulfur sublimed

--------------
>>> << signature <<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-) visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun
| **mosaz**  
Frequent Poster | posted September 12, 1999 10:51 AM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>do you mean sulfur or sulfuric acid because in my opinion it isn't difficult to get sulfur, just buy some fertilizer for example.</td>
<td></td>
</tr>
</tbody>
</table>

| **dlw daw**  
Frequent Poster | posted September 12, 1999 04:50 PM |
|------------------|-----------------------------------|
| sulfur, it is a defungicide for plants, not a fertiliser  
> > << signature >> <<  
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.  
;) ;-)  
visit my website.  
http://learn.to/makeexplosives  
http://fun.to/makeexplosives  
http://remember.to/makeexplosives  
they are the same I just thought making those names would be fun |

| **megalomania**  
Administrator | posted September 13, 1999 07:25 PM |
|------------------|-----------------------------------|
| Sulfur is both a fungicide and a fertilizer, its use as a fertilizer is limited to a few kinds of crops in certain areas. You would be suprised at how hard it is to find bulk sulfur. I went on a mission to all the ag stores in the area, plus some gardin shops and no dice. I have bought some at the drug store, but the price for vast quantities is not good. I know cheap bulk sulfur is out there, I worked at a place that bought a pallet of 50 lb sacks.  

Burning gunpowder to get sulfur dioxide would be quite wasteful as well as possibly adding certain contaminants in the finished product.  

> > << signature >> <<  
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |

| **megalomania**  
Administrator | posted September 13, 1999 07:25 PM |
|------------------|-----------------------------------|
I found a cheap source of bulk sulfur. At my local gardening/nursery store I bought a 5 pound bag of 93% sulfur for $2.99. It may be rare, since that is the only store I have ever seen that sold it. Should I check the brand name and report it back when I get home?

-------------

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!
http://www.seduced.to/fuckyourmother
will be able make HNO3 with car battery acid (boiled until dense white fumes come off) and NaNO3 (sodium nitrate). I have some NaNO3 and how do I get the acid out of the car battery, do I remove the top?

and finally would this improvised condenser/retort apparatus work?
everything is glass except for the stoppers.
it will use glass tubing bent. and will scotch tape be enough to hold the uncondensed NO2 long enough
for the ice bath to condense it?
any help is greatly appreciated.

----------
>> << signature >> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:) ;-) 
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

Saiyan Knight
Frequent Poster
post September 06, 1999 07:54 PM

No, the NO2 will simply eat right through the tape. If it didn't do it right away, the NO2 will react with
the tape making it impure condensed nitric acid. Oh and if you want to get the sulfuric acid out of a
battery, just take off one of the caps and pour it into a glass container. Then you might want to pour the
acid through a paper towel because there may be powdered lead in it or some dirt. If this is not done,
the lead or dirt may react with the acid when it is being concentrated making it impure.

IP: Logged

dlw daw
Frequent Poster
post September 06, 1999 10:07 PM

what would I use to plug up the collecting beaker. could I use a flask instead with a rubber stopper.

----------
>> << signature >> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-) 
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

Saiyan Knight
Frequent Poster
post September 07, 1999 08:29 PM

The NO2 will simply eat right through the rubber stopper too.
**dlwdaw**

Frequent Poster

posted September 07, 1999 11:50 PM

what would I use, pyrotek doesn't sell retorts. they sell condensers, but not retort. wait jus a minute, could I melt a glass tube over the little vacume thing on a vacume filter flask. then use a glass stopper, please tell me this will work.

--------------------

>> signature<<

this is the cops give me all your ...ahem.. books on making, ahem.. bombs.

;) ;-) visit my website.

http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives

they are the same I just thought making those names would be fun

**Saiyan Knight**

Frequent Poster

posted September 08, 1999 04:43 PM

I don't think vacuum filtering flask are meant to be heated.

**megalomania**

Administrator

posted September 14, 1999 06:24 AM

Vacuum filtering flasks can NOT tolerate heat in any way, the heating of the Erlenmeyer design is enough to cause stress fractures with the extra heavy glass filtering flasks are made of that will weaken it to death. Connecting glass to glass can only be done if the type of glass is the same, you would need the extra heavy glass that the flask is made of. I have only a few tidbits of glass blowing experience, but an expedient all glass system for nitric acid is on my mind. If you want the real deal, you'll have to buy standard taper glassware, they do not make retorts anymore, I have not seen one for sale in 6 years.

--------------------

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

**nbk2000**

Frequent Poster

posted September 14, 1999 03:17 PM

I saw a retort awhile ago on sale for $10 at CFRI in oakland. It was all dusty and shit. Should have bought it when I had the chance. Although you can buy distilling flasks pretty cheap. A 500ml one cost me about $25. It looks like a long neck flask made with a length of glass tubing coming out the side of the neck. Use those instead of trying to distill with rubber stoppers. You'll need to close the open end with a stopper. If you can't get a viton stopper, you can use a regular rubber stopper if you use a one hole stopper with a short length of glass tubing stuck in it and the receiving flask is connected to an aspirator or some other vacuum source. Air is drawn in through the tube and carries the acid fumes out of the flask through the side arm and through the condenser and into the flask. The fumes never touch the stopper.

--------------------

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: AMMONIUM NITRATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PYRO_MANIAC_MOONRAKER</td>
<td>HEY GUYS, does anybody know any stuff that I can try with some ammonium nitrate other that smoke bombs? the smoke bombs worked well. THX</td>
</tr>
<tr>
<td>nbk2000</td>
<td>You could make nitrous oxide (laughing gas). &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td>eze kiel</td>
<td>How did ya make the smoke bombs with AN? There are many thing involving AN in previous posts, read them too. Is nitrous oxide N₂O? -- eze <a href="mailto:kiel@cannabismail.com">kiel@cannabismail.com</a> &quot;Hitler bad, explosions good&quot;</td>
</tr>
<tr>
<td>Jolly Roger</td>
<td>Nitrous oxide (or nitrogen dioxide) is NO₂. In relation to smoke bombs, have you tried that one with rolled up newspaper soaked in AN?</td>
</tr>
</tbody>
</table>

IP: Logged

http://theforum.virtualave.net/ubb/Forum1/HTML/000092.html (1 of 3) [12/2/1999 2:40:07 PM]
I thought NO2 nitrogen dioxide was what was produced when H2SO4 and KNO3 are heated. and wouldn't nitrous oxide be O for example
NO or something

-----------
>> >> signature >> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

IP: Logged

someone correct me if im wrong but,
NO2 - nitrogen dioxide (kill you)
N2O - nitrous oxide (make you laugh)

IP: Logged

Your info is correct Blaze. Here's a link for more info on making Nitrous.
Have fun and be careful. I've only made it one time using purified fertilizer nitrate. It works.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged

The distinction has been confusing to cause more than enough death among the would be dopers. Just say NO to NO2!

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

IP: Logged
Blaze
Frequent Poster

You could possibly buy N2O, its what's used in nitro injectors for hotrods.

IP: Logged

Feticidal Fantasy
Frequent Poster

yea, or you could suck on a bottle of whip cream, since they are presurized with laughing gas, push the nozzle hard enough that the gas escapes, but the cream doesn't and you can get a small high.

-------------

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!
http://www.seduced.to/fuckyourmother

IP: Logged

nbk2000
Frequent Poster

Never use hotrod nitro. The stuff has contaminates that will kill you. And you can use whip cream cans. But the little bottles for the whip cream makers (look like CO2 gun bottles) are much cheaper. The instructions for making an inhaler to use these can be found at the hyperreal link I posted above.

-------------

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged
The Hyperreal Drug Archives have Moved.
The file you are looking for has moved to the Erowid Psychoactive Vaults.

You will be automatically forwarded to the New Location in a few seconds.

Greetings!

Time flows, interests change, new dreams are deamt... such is the nature of life. And so, the Hyperreal Drug Archives have been "frozen", freeze-dried in liquid carbonate, put into a capsule marking 1999 (and earlier)... and the baton has been passed to Erowid.

Erowid will host a full historical snapshot of the Hyperreal Drug Archives, which will no longer be maintained or updated, so the information may not be up-to-date. Relevant files have been added to the appropriate places in Erowid’s Vaults.

Thanks.

Lamont Granquist
I am thinking of ordering from pyrotek. no chemicals yet. just
glassware, here is the list of what I want to order, anything else
you suggest.
there is no item numbers on these kinds of things for some reason

3 dropper bottles
2 rectangular supports
1 tripod stand
1 glass tube cutter
2 burrete clamps(for rectangular support)
2 1000 ml beaker
1 500ml seperatory funnel
3 100ml graduated cylinder
2 400 ml beaker
2 600ml beaker
1 250 ml beaker(I have one)
1 125 ml erlenmyer flask(I have one)
2 250 ml flask
2 500 ml flask
2 1000 ml flask
1 dzn. test tubes 13x100mm.
" " " 16x125mm.
" " " 20x150mm.
8 ft. 5 mm. glass tubing(sold in 4 lengths of 1 foot)
total emersion thermometer
4 stoppers # 5 solid
" " # 5 onehole
" " # 5 2 hole
" " # 6 solid
" " # 6 1 hole
" " # 6 2 hole
" " # 8 solid
" " # 8 1 hole
" " # 8 2 hole
" " # 9 solid
" " # 9 1 hole
" " # 9 2 hole
1 plain 41x300mm. graham condenser
I will be spending a good 400-500 dollars. anything else or anything that I can take away that is not essential

-------------
> <> signature <> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:) ;-) visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

Ho ju
Frequent Poster

posted September 07, 1999 07:15 PM

damn that is a big order. plan to pay out your ass in shipping and handling and packaging costs. You planning on setting up a lab of some sorts?

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged
nah I just want to buy the stuff so I can break it with a hammer.

of course I'am setting up a lab. I might order a wee little bit at a time, like all the small stuff, like the 250ml beaker and the 225ml flask, and the stoppers, I just wish pyrotek sold glass stirring rods, and retorts, I have a few stirring rods, they are small though. does anybody know any true lab suppliers

-------------
>> <> signature<> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;); -)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

IP: Logged

Ho ju
Frequent Poster

posted September 08, 1999 07:35 PM

Really? cause i have a really good hammer i could send you. What is your address? Just make sure to open up my package before you let any police dogs sniff it or before you soak it in water 😊 K?

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

dlw daw
Frequent Poster

posted September 08, 1999 09:14 PM

sure I'll take the hammer 😊
have you ever heard of > sarcasm <

-------------
>> <> signature<> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;); -)
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

IP: Logged
what the fuck is sарasm ? are you crazy or something ?!

--

ezekiel@cannabismail.com
"Hitler bad, explosions good"

----------

dlw daw
Frequent Poster

what i meant was I was being a smart ass. sorry, I was tired, I'm
tired all the time, I wrote it wrong.some poeple like to call it
"smart alec". if you dont know what that means then your
hopeless.

heres an example,

you go to your mom/wife/cook you say "I'm hungry" your
mom/wife/cook says "what do you want to eat", you say "food".
he says "I know that, but what kind of food", you say "good food". ok
that is what I was being a smart ass.

----------

>> << signature << <<

this is the cops give me all your ...ahem.. books on making,
ahem.. bombs.

;) ;-

visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives	hey are the same I just thought making those names would be
fun

----------

ezekiel
Frequent Poster

I see that when I mix irony with sarcasm people fail to get it,
sorry guys, I'll try harder next time.
No worries dlwdaw, I have the same problems

----------
Ok here goes... As the operator of a "zero budget lab" for most of my life I have a few suggestions for cost savings:

Dropper bottles don't help much, try plastic if you can, better to just get a pipet and a beaker.

You don't need a glass cutter, you cut glass tubing with a triangular file and pressure from your thumb, get a file.

If you getting buret clamps for your stand, don't forget some rings as well... It is nice to have 2 stands and a tripod.

Perhaps a more modest 250 or 125-mL separatory funnel will be more cost effective, anytime I use one I need only small amounts because thats the way organic chemistry uses seps, several extractions with smaller amounts. Seps are VERY expensive, get one with a teflon stopcock if you can.

Get a 10-mL graduated cylinder and a 100-mL not just 3 100's. You can never have too many of course, I hate having to wash one every time I add a new chemical (yes you have to wash them).

Test tubes are not all that useful, but they are cheap. Try getting only a half-dozen of the various sizes, and get a test tube rack, keeps you from pressing a beaker into test tube holder duty 😊 One t-tube clamp will do ya.

You can never have too many stoppers, I can never seem to find the right size with enough holes. Thank goodness for standard taper...

You don't need a total immersion thermometer, a partial immersion is usually cheaper and just as good.

I think you'll want a Liebig condenser instead of a Graham, Graham's have a small jacket and so are not as efficient.

Screw that alcohol lamp, get a damn bunson burner or at least a blowtorch. You can use a candle if you need a low flame, or even a water bath. A heating mantle/hotplate is better still (very expensive).

You don't need but 1 mortar and pestle.

Save the petri dishes for biology, get 1 maybe.

If you are spending 500 bucks on that list you are being ripped off... If you are spending that much, you might want to look into a Standard Taper organic glassware kit. I would be happy to advise you on what and where you should buy if you will email me.

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Igenx</em></td>
<td>September 13, 1999 11:04 PM</td>
<td>I would be interested in splitting the shipping costs with anyone else local (USA, Midwest) with a small order.</td>
</tr>
<tr>
<td>dlw daw</td>
<td>September 14, 1999 03:49 PM</td>
<td>how do I set up a bunsen burner, like where do i get the gas connections. bunsen burners use methane right? or do they use butane,or propane?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I can get a bunsen burner but dont know where to get the conecctions and how to set it up. and if it gets down to me not being able to get as burner I could just steal one from a school 😁😁😁😁 ; ( ; o [c:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;&gt; &lt;&lt; signature&lt;&lt; &lt;&lt; this is the cops give me all your ...ahem.. books on making, ahem.. bombs. ;) ;-) visit my website. <a href="http://learn.to/makeexplosives">http://learn.to/makeexplosives</a> <a href="http://fun.to/makeexplosives">http://fun.to/makeexplosives</a> <a href="http://remember.to/makeexplosives">http://remember.to/makeexplosives</a> they are the same I just thought making those names would be fun</td>
</tr>
<tr>
<td>Ho ju</td>
<td>September 14, 1999 03:51 PM</td>
<td>i think bunsen burners use propane as the gas. just connect the gas tank to the burner with a rubber tube and light the burner with a sparker.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>

Administrative Options: Close Topic | Archive/Move | Delete Topic
**Igenx**

*posted August 30, 1999 08:15 PM*

Ok, here's my question - are there any kinds of high explosives (not primary) that can be made without the use of nitric acid? If so, does anyone have a link to pages with these types of explosives?

---

**Ho ju**

*posted August 30, 1999 08:29 PM*

Astrolite. But then again you will have a harder time finding and using the hydrazone than the nitric acid.

---

**Saiyan Knight**

*posted August 30, 1999 09:50 PM*

Yes, there are many high explosives that can be made without nitric acid. Examples are two-component binary explosives (explosive mixtures) and compositions. What are you going to use the explosive for? I'm just wondering so I can give you a recipe on a certain explosive that would be good for that purpose.

---

**Poison**

*posted August 30, 1999 09:59 PM*

Could you post some explosive mixtures that have easy obtainable materials ^thanks

---

**Ho ju**

*posted August 30, 1999 10:37 PM*

It is NOT a high explosive but it is EASY to make. Take powdered potassium perchlorate and mix it with powdered aluminum. (70% P.P. and 30 A. works best.) and light. Like i said it is NOT a high explosives but you can make a nasty pipe or co2 bomb out of it.

---
AN-NM
AN-AI
AN-PO
AN-NM-AI
and that 70/30 perc./AI is considered a HE by the BATF.
if you want to get a license to manufacture flash you have to get a HE manufacturing instead of a LE manufacturing license, you can fudge it by saying you are not manufacturing HE/flash powder you are mixing it.

-------------
>>>signature<<<<
this is the cops give me all your ...ahem... books on making, ahem... bombs.

Washuu X Frequent Poster
posted August 31, 1999 03:08 PM
Nitrobenzene+potassium nitrate (used by IRA)
Al+carbon tetrachloride (from black book, does this work?)
NM+aniline/ethylenediamine/aqueous ammonia
Red phosphorus+AN+silicone oil+dried coffee+soybean oil+benzoyl peroxide (from kitchen improvised plastic explosives 2, sounds strange)
Saiyan Knight, can you give some examples of high power binaries apart from AN/NM and Astrolite?

-------------

Washuu X Frequent Poster
posted August 31, 1999 05:36 PM
Well, like you write, the problem are these volatile solvents. Something that would interest me is a nitric acid free synth for an explosive that can be stored for a few days at room temperature (maybe connected to a timer :-)). Is it possible to store AN/NM+additives for a week or so without the NM evaporating? If yes, what kind of container has to be used?

Saiyan Knight Frequent Poster
posted August 31, 1999 07:41 PM
Store it in a waterproof glass container.

Saiyan Knight Frequent Poster
posted August 31, 1999 07:44 PM
Dlw daw, potassium perchlorate/aluminum powder composition is not a high explosive. It burns violently rather than detonate when initiated by a fuse.

Ho ju Frequent Poster
posted August 31, 1999 08:56 PM
Doesn't flash powder detonate when confined in a container or under its own mass?

-------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Igenx, here are some explosive mixture that can be made without nitric acid.

Potassium chlorate/kerosene explosive

1 part by volume kerosene and 9 parts by volume potassium chlorate. This mixture forms a low power/brisance high explosive which should be used under strong confinement and only as an explosive filler for antipersonnel fragmentation bombs and light blasting operations. This explosive can be detonated with a #8 blasting cap or the equivalent.

Potassium permanganate/aluminum explosive

Measure out 3 parts by volume of potassium permanganate and 2 parts by volume aluminum powder. Shake this mixture gently in a waterproof container with the lid gently for 5 minutes. This mixture forms a low power/brisance high explosive which should be used under strong confinement and only as an explosive filler for antipersonnel fragmentation bombs. It can be detonated with a #8 blasting cap or the equivalent.

Potassium chlorate/Red Phosphorus explosive

This explosive is very dangerous. Mix 8 parts by volume potassium chlorate and 2 parts by volume red phosphorus. DO NOT MIX THESE CHEMICALS DRY. Moisten them with ether or rubbing alcohol first. DO NOT ALLOW MIXTURE TO DRY OUT WHILE STORING. This mixture forms a powerful explosive which is in equal strength of 40% dynamite. It can be used for general purpose blasting and ditching operations. It can be detonated by a #8 blasting cap.

HTH/Naptha explosive

Mix 32 parts by volume of calcium hypochlorite (HTH granular swimming pool chlorine bleach) with 1 part by volume petroleum naptha (benzine). This mixture forms a low power/brisance high explosive which should be used under strong confinement and only as an explosive filler for antipersonnel fragmentation bombs. It can be detonated with a number #8-10 blasting cap.

Sodium chlorate/aluminum or sugar explosive

Mix three parts by volume sodium chlorate with one part by volume aluminum or two parts by volume granular sugar. This explosive is quite similar to the potassium permanganate/aluminum explosive. It can be detonated by a #8 blasting cap.

dlw daw

try telling the BATF flash powder is not HE. Tom Dimock got slightly hassled because he wanted to make flash powder and he was applying for a LE manufacturing licence, and he wanted to use flash powder and make it too. take a look. www.pyropage.com go to the getting legal section.

-------------
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.

(:)

Ezekiel, potassium permanganate/aluminum mixture is not just a strong simple flash powder. It acts as a low explosive when ignited by a fuse. It acts as a high explosive when initiated with a blasting cap under confinement. Also Armstrong explosive in not a primary explosive. It is a sensitive two-component explosive mixture. I'll give you credit that its main use is in toy caps for cap gun but, it is not a primary explosive.
Here's a couple of H.E. (6,000+ meters per second) compositions made from sodium perchlorate and they use antifreeze (diethylene glycol). You mix it up as a liquid slurry, but it solidifies into a solid. Go to http://164.195.100.112/ubb/Forum1/HTML/000064.html#6 for more information:

http://164.195.100.112/ubb/Forum1/HTML/000064.html#6

These links will take you directly to the US Patent Office online patents directory. The patents have complete directions including tables. And if anyone wants a simple way to make pounds of perchlorate at home with a battery charger, just e-mail me at "nbk2k@yahoo.com". I'll e-mail you the file.

If it was an explosive it would explode, it doesn't. In rec pyro and all my pyro friends see it as just a strong flash, and they don't touch explosives at all but they will use it. Plus they read hundreds of books on the subject.

It may explode under confinement but it is not necessarily an explosive.

Armstrong's mix IS an explosive as it was used as a primer (without booster may I add) to WW2 bombs, and is considered a high brissance explosive by all pyro folks.

If it wasn't high brissance it wouldn't make such a loud snap with such small amounts in a cap gun.

--------------------

ezekiel@cannabismail.com

"Hitler bad, explosives good"

--------------------

Maybe perchlorate isn't explosive straight, but it most certainly is explosive in the patents listed above. If you look to see who the patents belong to (assignee) you will see that it is Dyno Nobel Inc. As in Nobel Dynamite. I believe they know what an explosive is or isn't. If they say perchlorate is an explosive, then I would believe them over some unknowns opinion in alt:pyro. Oh, by the way, if anyone would like a file on how to make pounds of perchlorate at a time from salt using a battery charger, you can e-mail me at "nbk2k@yahoo.com" and I'll send it to you.

--------------------

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

hey nbk2000 I am too lazy to send email so will you send me the file.

dlwaw@mindspring.com

thanks.

--------------------

It is the cops give me all your ...ahem.. books on making ahem.. bombs.

visit my website.

http://learn.to/makeexplosives

http://fun.to/makeexplosives

http://remember.to/makeexplosives

they are the same I just thought making those names would be fun

Hehehe, may have well as asked him to post the file!!

nbk2k which file is it, since i have read a few on the subject before.

Ditto. Can i have the file also NBK2000.

Charles21lb@yahoo.com

--------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
I will have the file to thanks.
pyrotek0@icqmail.com

Sorry NBK , I was talking about the KMgO₄ and Al mix , not your perchlorate and antifreeze mixes.
Some more about it - whoever it was who found it only burnt violently , this was proably because of either your chemicals were impure , or they were not fine enough and well mixed. Or both.

This topic is 2 pages long: 1 2
All times are ET (US)

Administrative Options: Close Topic | Archive/Move | Delete Topic

Contact Us | The Forum
What's New on the Pyro Page?

One of my main interests is Pyrotechnics. I am licensed as an explosives manufacturer and user by both the BATF and the New York State Department of Labor. I am a member of the Pyrotechnics Guild International, the Finger Lakes Pyrotechnic Association, the Crackerjacks, and I shoot shows professionally for Young Explosives of Rochester, New York. I also try to get to the PGI convention every year.

Fireworks Safety

Absolutely the most important consideration for anyone who loves pyro is safety. It is my fervent wish that all pyro lovers in the world will live their lives to their normal span, and with all of their body parts intact. Assuring this means paying a great deal of attention to safety! If you are planning to get involved with pyro at a hands-on level, make sure you know what you are doing. There are far too many news stories of young (and older) people getting hurt while working with energetic substances. Please read up thoroughly on safety before attempting to make any pyrotechnic substances yourself, and make sure that you are operating within your local laws.

Girandolas

One of my favorite pyro devices is the girandola, and I will be devoting some time to creating a section of this web site dedicated to them.

Pyro Links

I try to keep this list of pyro links reasonably comprehensive, with a few exceptions. I do not list links to archives of all of the unbelievable (and dangerous) garbage such as the Jolly Roger Cookbook, The Big Book Of Mischief, etc.. These documents are filled with erroneous and extremely dangerous information. Trying to follow their instructions can leave you seriously hurt or dead!!

- Legal & Safety Pages
  - General Sources
  - Federal Regulatory Agencies Directly Effecting Pyrotechnics
  - Foreign, State and Local Legal Information
  - Getting Legal
  - Fireworks Safety Tips
- **Pictures of Pyro**
  - [Some Pyro Pictures and Movies](#)
  - Information on photographing pyrotechnics
  - Computer generated pyrotechnics

- **Pyro Writings**
  - [Some Pyro Songs and Stories](#)
  - A little pyro history

- **People, Clubs & Associations**
  - [Personal pyro pages](#)
  - Club home pages
  - Association home pages
  - Pyro Research Organization home pages

- **Pyro Conventions and Displays**
  - [Conventions and Symposia](#)
  - Show & Competition home pages

- **Fireworks Vendors**
  - [Pyro Literature](#)
  - [Pyro Supplies](#)
  - Display Operators and Class B
  - Class C

- **Other Stuff**
  - Pages that are clearly pyro related but unclassifiable
  - Interesting, if rather silly, pages
  - Anti-fireworks Pages
  - Cheesy rip-offs of my page
  - Outdated Pyro Pages

---

**General sources:**

- Tom Perigrin's Pyro Webbook - was probably the best single source of high-quality pyro information on the web, but it has gone off-line for a while. Check [Tom's new page](http://www.pyropage.com/) periodically, as that is where it will resurface when current technical problems are overcome. You should also seriously consider buying Tom’s book "**Introductory Practical Pyrotechnics**". You can order it from Tom at:
  - Pyro Safety Co.
or from SkyLighter. In either case it is $44.95 plus shipping.

- **The Pyrotechnic Formulary Page (PFP)** contains a huge database of pyrotechnic formulations.
- **Wouter Visser** maintains another significant data base of pyro formulations culled from the net.
- **MSDS and EPA Data Sheets for Pyrotechnic Chemicals** are available on John Ray's very useful site.
- **Merlin's Academy of Alchemy** may be the way for you to brush up on that chemistry that you blew off in school. It is not free, but seems very reasonably priced.
- It is unfortunate, but true, that many who become involved with pyrotechnics believe that "it can't happen to me". Well, the unfortunate truth is that it CAN happen to you. This site has some very unsettling pictures of what can happen if you do not take safety seriously. WARNING - these pictures are very graphic, and show some very badly damaged people!
- Here's another page with some sobering pictures of the kind of damage your hands can sustain if safety is not your number one consideration.

- **W's Fireworks Calendar** is a great resource for those seeking out the biggest and best fireworks shows.
- **John Bennett's Events Calendar** lists many pyro events, primarily in Great Britain.
- **Dirk Ender's Feuerwerk-Kalender** covers mostly German events.
- **Japanese fireworks** looks like an excellent jumping off place for Japanese sites, along with the Japan Pyro-Web.
- **Markus Klatt's German Calendar** is another source for fireworks events worldwide.
- **Practical Chemistry & Physics** is just what it sounds like. Many of the articles on this site have direct applicability for the amateur pyro.
- **IBM's Patent Database.** Try searching on "fireworks".

- **The Pyro Home Page**, another great site for high quality pyro information
- **rec.pyrotechnics FAQ** is a good ascii text intro to pyrotechnics.
- **The clove hitch** is probably the most widely used knot in fireworks. This site shows you how to tie one.
- **Kaboom** is the web page associated with a TV special on fireworks.
- Can't remember the atomic weight of Aluminum? This **Periodic Table** will help you with elemental chemistry info.
- **Fisher Scientific** is a great source of detailed information on the chemicals we use.
- **800 numbers** for fireworks businesses
Information on HDPE mortars

Treating cardboard mortars for longevity.

Internal Ballistics Home Page is where you need to go if you want to truly understand why your shells go as high as they do.

Federal Regulatory Agencies Directly Effecting Pyrotechnics:

- The U.S. Code is the federal law of the land. The parts applicable to pyro are Title 18, Chapters 39 and 40.
- The Department of Transportation arguably has more direct effect on pyro than any other agency. Their Hazardous Materials Transportation Guides are of particular interest to pyros.
- Most people assume that role would fall to the Bureau of Alcohol Tobacco and Firearms, but they are almost exclusively concerned with safe storage issues. The BATF regulations are published in the Orange Book. You can try to get a copy from the BATF (they are frequently out of stock), or you can purchase it from SkyLighter. The BATF also publishes annually the List of Explosive Materials, in case you're wondering how they define the term "explosive".
- If you are a big enough manufacturer to fall under OSHA's gaze, you'll need to know about their Fireworks Manufacturer: Compliance Policy
- A site called Safety OnLine has the complete OSHA regulations available. Search on "Fireworks" to get the ones that are relevant to us.
- If you are shooting professionally, these is a pretty good probability that the local authorities will want you to operate according to the National Fire Protection Association (NFPA) fireworks code. Codes of particular interest are 1123, 1124, and 1126. The full text is not on-line, you have to buy them.
- Concerned about taggants? Hodgdon Powder has an interesting page of information.

Foreign, State and Local Legal Information

- Cornell Law School, hosts a legal information site that should be the starting point for any research into US state laws.
- Canada has an organization called the Canadian Explosives Research Laboratory which does very useful research in the area of display pyro.
- Alaska Statutes, Title 18, Chapter 72, contains the Alaska fireworks laws, along with the Administrative Code, Title 13, Chapter 51.
- Arizona Statutes, Title 35, Chapters 1601, 1602, 1603, 1604, 1605, 1606, 1607, and 1608 contain the Arizona fireworks laws.
- The California State Fireworks Laws are on line, along with the Fire Marshall's Regulations.
- If you're from **Colorado**, the [State Fireworks Laws](#) are on line - Search the statutes for the word Fireworks. They also have a page of [Questions and Answers](#).
- **Connecticut**, which already had some of the most stringent fireworks laws in the country, has made them even tighter.
- **Florida** [fireworks laws](#) are on-line.
- A really bad law was proposed in Florida in both the **House** and the **Senate**. It was not passed.
- Tom Smith has posted a very interesting analysis of the state of fireworks regulation in [Great Britain](#).
- Indiana Code, Title 22, Article 11, **Chapter 14**, contains the **Indiana** fireworks laws.
- Here's the [Minnesota Statutes](#) relating to fireworks.
- The **New Jersey** fireworks laws are in **Title 21**.
- **Pennsylvania** fireworks manufacturing laws are in Title 34, Chapter 5, Subchapter C. Other fireworks laws are in Title 35, sections 1151-1235, but those do not appear to be on-line. **Title 37, Chapter 711** has the laws on Registration for Fireworks Displays.
- The **Rhode Island** fireworks laws are in **Chapter 23-28.11**.
- Here's a site with the [Texas Insurance Code](#) relating to fireworks.
- The Revised Code of **Washington**, Title 70, **Chapter 77**, contains the Washington State Fireworks laws.
- The **Washington**, [Fireworks Stand](#) regulations are also on line.
- A jurisdiction by jurisdiction list of where fireworks are restricted or banned in Washington state.
- The city of **Halifax** are total spoilsports when it comes to fire crackers. They blame their nervousness about things that go boom on [The Halifax Explosion](#), but that's like banning fans because you once had a hurricane....
- **Jonesboro, Arkansas** has their [municipal code](#) on-line. The fireworks laws are chapter 7.36.
- Here's a page telling you how to get a fireworks permit in **North Bay, Ontario**, along with the table of fines for fireworks violations.
- [Fireworks Policy](#).
- The University of California, Irvine Campus, says no too.
- A [legal case study](#) discussing the immunity from liability of municipalities for accidents during fireworks shows.

### Getting Legal

- Pyrotechnics as a hobby has some serious legal pitfalls. But it is possible in many states to get legal. The [Getting Legal](#) web site contains information on the process of getting legal at the Federal level and at the state level in New York State.
Fireworks Safety Tips

- **The BTEC Firework Training Scheme** at Loughborough College in Great Britain offers multi-day training courses for both amateur and professional fireworks shooters.
- **Explosives Training** is offered in Australia for both blasters and pyrotechnicians.
- **Fireworks Safety** is a page sponsored by the Celeste, Texas Volunteer Fire Department.
- **National Council on Fireworks Safety** has a whole site dedicated to fireworks safety.
- **UK Fireworks Safety Pages** are sponsored by a group of British firms.
- The State of Washington supports quite an impressive site on [Fireworks Safety](http://www.pyropage.com/).
- The California Fire Marshall’s office has a [Fireworks Safety Page](http://www.pyropage.com/).

Some Pyro Pictures and Movies:

- Artbeats sell broadcast quality video clips. Their two new collections are [ReelFire 1](http://www.pyropage.com/) and [ReelExplosions 1](http://www.pyropage.com/).
- **Burch Communications**, a photography studio in Canada, has some very spectacular pyro photos in his portfolio.
- **Ebisu-kou Fireworks** has a site with lots of avi and mpeg movies of their fireworks.
- **Pyro Photo Album** by an anonymous pyro.
- Some of my own pictures from the 1995 and 1996 PGI Conventions.
- Some pictures of the [Hudson's Fireworks](http://www.pyropage.com/).
- This calendar of Japanese shows for 1994 has an interesting drawing of two shells.
- Xzark Designs has a neat image in their gallery of samples based on a Circus firecracker label.
- James Campbell is an Edinburgh photographer who features fireworks pictures in his Gallery.
- In its quest to have the biggest phallic symbol in the world, Las Vegas built the Stratosphere Tower. Of course the grand opening had fireworks!
- A very nice picture of a red to silver streamer shell.
- **Nine3** (whoever they are) has a site with some fireworks pictures.
- Here's an interesting one - a series of pictures of David Hall, a performer whose performances involve pyrotechnics strapped to his body! He sent me one picture entitled Perseus.
- This Japanese page, with the somewhat cryptic title *"Only girls and fireworks were the gift from the Summer"* has pictures of hand held fireworks.
- If you want REALLY BIG scale fireworks, check out this picture of the Fireworks Nebula.
- The movie [Red Firecracker, Green Firecracker](http://www.pyropage.com/) has some tantalizing scenes of fireworks manufacture in China at some unspecified point in time. Also lots of fireworks!
Alan Simmons sells fire videos. They're aimed at firefighters, but some were shot on the 4th and have fireworks in them.

If you're looking for Pyro Screensavers, this place has several to choose from! They also have more ads per page than anyplace I've ever seen.

Mark Waluk has a page with quite a few photos of Canadian fireworks shows.

Jackie Whedbee has a great web site with fireworks photography, illustrations, poetry, etc., including some erotic fireworks photos!!

Information on photographing pyrotechnics:

If you're interested in photographing pyrotechnics, check out these fireworks photography tips from the staff at the Smithsonian Institution.

Some more practical info from Jim Cathey

Fireworks in California is page with a lot of useful tips for photographing fireworks.

Computer generated pyrotechnics:

Digital Fireworks Stand is just what you need when you're sitting in your office and a severe attack of IDS (Ignition Deficiency Syndrome) hits.

Hanabi is a calendar with a difference. Move your cursor onto the calendar and it sprouts a little flame. Hold it on a date and....

Inclusive Technology makes an educational program for kids that operates around a fireworks theme.

If your browser is JAVA enabled, take a look at this rocket simulation, or this japanese shellburst simulation!

How about a page describing some research into "Ballistic and Visual fireworks choreography"?

Xaos Tools product called Pandemonium is an image processing product for Unix with specific support for drawing fireworks.

Computer Supported Fireworks is a page with computer generated fireworks and it is in English and Japanese.

The flickering flame will track with your cursor. Touch the flame to any of the days (numbers) of the week and it will, well, I guess I'll just let you play with it...

Some Pyro Songs and Stories:

Here's a song called Fireworks.

John DuBois writes an entertaining Diary of a Pyro, which he insists is fiction. But is this the same John DuBois who was busted in California?

A nostalgic story of a young boy's fascination with fireworks.

Here is a brief description of a visit to Malta by the publisher of Pyrotechnica.
A nice newspaper article on display fireworks, entitled Large-scale fireworks have more in common with mortar shells than bottle rockets

Here is a story titled The Rocket's Red Glare.

A little pyro history:

- Lavoisier the gunpowder specialist is the title of an article in Revue 6 of the Musée des arts et métiers in Paris. And yes, it is in English or French.
- A Complete System of Pyrotechny ca. 1829
- A large collection of images of firecracker labels.
- Another account of the origins of Guy Fawkes day is given on the Gunpowder Plot pages.
- Brief History of Rockets aimed at school teachers.
- William George Armstrong got his name attached to Armstrong's Mixture, one of the most dangerous pyrotechnic compositions known.
- If you're a teacher, you could use this Fireworks - Mini Unit.

Personal pyro pages:

- Randy Alberts has a page about the ultimate star pump.
- Jean-Claude Arnouil's home page has pictures of some of the fireworks at a concert at the Eiffel Tower.
- Bertram Bach's site looks quite interesting (German).
- Doug Bazarnic's home page.
- Doug Beaver has a pyro page.
- David Blankley's site contains some interesting looks behind the scenes as shows are set up.
- Adam Blaszczyk has a pyro page entirely in Polish.
- Donald Boscoe's site contains some information on Clark's Giant Steel Fountain, among other things.
- Dennis Boskamp has a nice pyro page from the Netherlands.
- Larry Crump has a pyro page with some info and quite a few pictures.
- Danielik has a pyro site in Italian.
- Alain Deschamps has a pyro site aimed at French pyrotechnicians.
- Dexter has a pyro site with many interesting pictures.
- DJ has a pyro site with some very interesting info on nozzleless black powder rockets.
- Doug has a pyro site with mostly pictures.
- John DuBois' pyro page
- Evan has a pyro page.
Fire Chief has a page with a very nice comet picture as the background.

Fireworks 2000 has a page of pyro information.

Marty Flickinger has a page showing the setup of a big show shot from large flatbed trailers.

G. G. has an interesting illustrated pyro page.

Wally Glenn (aka PyroBoy) is a pyro performance artist.

Ken Gourlay has a page with detailed information on how he built an electric firing panel.

Lindsay Greene has a page with lots of how-to information.

Nick Gunn has a page he did for a project (Informative and well laid out).

Steve Johnson has a nice page describing the consumer fireworks British market.

Chris Krstanovic has a page with lots of great rocket info.

David Hall has a page called living fireworks. It's mostly pictures along with some pyro history.

Dave Lewis has a page with lots of pictures of shows up in Nova Scotia.

Ray Mancy has a page that has some all around info.

Mark has a pyro tools page.

Paul Marriott, who lives in Montreal, has put up a pyro page featuring show-by-show reports on the Benson & Hedges competition shoots.

Peter McMalley has a pyro page featuring some very nice looking tools.

New!! Mike has a page with quite a bit of hand's on info.

G. Millar has a page with a fair amount of pyro info from Australia.

Don Myers has Mustangs and pyro as hobbies.

Richard Nakka has an experimental rocketry site which will be very interesting to aspiring rocketmen.

Nick has a pyro page.

Jacques Nougaret's Fireworks Café site is an excellent French language resource.

See the General Sources section for info on where Tom Perigrin's Pyro Webbook - probably the best single source of high-quality pyro information on the web - has gone.

Petri Pikho's home page is pretty amazing!

PyroMan has a pyro page up.

Pyrosamm has a site with just oodles of pyro goodies!

Florian Reckelkamm has a lot of pyro information.

The Silent Observer, who used to be a frequent poster on rec.pyrotechnics, has a home page.
Jean-Marc Picard has a site with links to French language pyro resources.

Tom Smith works for Kimbolton fireworks and has a home page featuring an unbelievable amount of information including a searchable pyro glossary.

Steve's Backstreet page has quite a bit of pyro - no surprise since he studied with Rom Lancaster at Kimbolton School.

Carl Stevens has a pyro page with some pictures of the 1997 WWB.

Edd Stewart & David Brainwood support the very nice "Pyrotechnics UK" site.

Franck Thery's Pyrotechnie is a French language site with one of the most beautiful title bars I've ever seen.

Ron Unrath maintains the Cheesehead Central site, which has a lot of pyro information.

Vapor has a site up at pyrogasmic.org.

Wouter Visser's pyro page is available in both English and Dutch.

Wayne Warf's pyro page

Webmaster has a neat page on his prior life designing big shows.

Charley Weeth has put up quite a large and informative Fireworks Page.

Jackie Whedbee has a great pyro web site.

Dan Williams has a most informative site, with lots of how-to's for pyro tools.

Nick Woodruffe has a site with lots of information on British pyro firms.

Andrew Woodward & Lindsey Greene run the Short Fuse page, with a lot of pyro information.

Dennis Wrenn has started a pyro site.

Club home pages:

Pyrotechnic Guild International (PGI) is the grandaddy of pyro clubs. It's annual convention is heaven for the dedicated pyro, and was listed as The Coolest Place on Earth for August 11, 1998! The 1997 convention has an extensive write-up on the Radical & Extreme Hobbies page.

The 1997 PGI Fireworks Convention and Review.

Bluegrass Pyrotechnic Guild has a home page.

Canadian Pyrotechnics Arts Guild has put up a page.

Chalmers Pyrot is a Swedish student pyrotechnic organization. A much more complete version of their site is also available in Swedish.

Connecticut Pyrotechnic Association has a very nice set of pages (if I do say so!).

Crackerjacks are a superb fireworks club in the Virginia, Pennsylvania, Maryland area.

Flamers is the Dublin University Pyrotechnics Society. They have a great, if somewhat irreverent page.
- **Michigan Pyrotechnic Arts Guild** serves the pyros in the Michigan area.
- **Pyrotechnic Artists of Texas** - aka the Fireants - is a new club for Texans.
- **Pyroteekkarit** is the Pyrotechnics Association of Tampere Students of Technology in Finland. Most of the site is in Finnish.
- **R-BP** is an Email based group for BP Rocket enthusiasts.
- **Skyrockers** is a volunteer fireworks club that puts on shows.
- **Western New York Pyrotechnic Association** serves pyros in western New York. Even if you don't intend to join, click where it says to to get an application... Much useful information will be revealed!
- **Western Pyrotechnic Association** (WPA) has a very nice page, with lots of info about the Western Winter Blast!
- **Wisconsin Pyrotechnic Arts Guild** now has their own page.

**Association home pages:**
- **American Pyrotechnics Association** is the premiere trade association for the American pyro industry.
- **Les Artificiers Associés** in France.
- **Explosives Industry Group** in Britain covers the entire explosives industry, and has a very active pyrotechnics subgroup.
- **International Pyrotechnic Society** covers industrial and military pyro, as well as fireworks.
- **Kansas Fireworks Association** works to promote safety and keep fireworks legal in Kansas.
- **National Fireworks Association** was formed to fight against overregulation of fireworks.
- **Verband der pyrotechnischen Industrie** is the German association of fireworks manufacturers.

**Pyro Research Organization home pages:**
- **Energetic Materials Research and Testing Center** is a division of New Mexico Tech.
- **Research Group Pyrotechnics & Energetic Materials** is a pyrotechnic research organizaton in the Netherlands.

**Conventions and Symposia:**
- The **PGI convention** is a must for any serious pyro fan.
- The **International Symposium on Fireworks** is probably the most technical of all. It is aimed at the fireworks trade.
Show & Competition home pages:

- **Benson & Hedges** fireworks competitions in Montreal are the best!
- **Bun Bong Fai festival** is right out there on the edge. If you like rockets, check out the pictures!
- **Burning Man** is a major happening which includes a lot of pyro. Wired magazine's on-line version did a [story](#) on the '95 Burning Man.
- **Cirque de Flambé** is a show of fire and fireworks acts in the Seattle area.
- **Coastside Fireworks Committee** puts on a show each year.
- **Concurso Internacional De Fuegos Artificiales** appears to be a major Spanish fireworks competition.
- **Desert Blast** is an infamous, by invitation only annual event. It has been written up many times, including an article first published in Wired, another story in a UFO fanciers newsletter, yet another in the Planet Wally site and several in the Radical & Extreme Hobbies site - the latest is the coverage of DB99.
- **Disney World** offers fireworks dinner cruises.
- **Fallas de Valencia 99** home page. This is quite a festival, with lots of fireworks. This site has sound and video clips. There is also a page for Fallas 97.
- **Festival of Fireworks at Shugborough Estate** sounds like a good time.
- **Fiori di Fuoco** is the "World Championship of Fireworks", held each year in San Remo.
- **IllumiNations** is the Epcot Center fireworks show.
- **La Merce 95** was quite a show in Barcelona.
- **Les Grands feux Loto-Quebéc** has put up a very handsome, multi-page site. This sounds like a series of shows worth seeing!
- **Plymouth Firework Competition** is billed as the British "National Fireworks Championships".
- **Portland Rose Festival** has a major fireworks show every year.
- **Rhythm & Booms** is a huge annual show and traffic jam in Madison, Wisconsin.
- **San Sebastian, Spain** hosts a fireworks competition. Here, in Spanish, is the schedule of events.
- **Southport Musical Firework Championships** is billed as the "British Musical Firework Championships".
- **State College, PA** hosts a real big 4th of July show every year.
- **Survival Research Labs** does some rather extreme performance art involving many pyro effects.
- **Zozobra** is burned with accompanying fireworks as the culmination of the Fiesta de Santa Fe, in Santa Fe, NM, every year the weekend after Labor Day.
Pyrotechnic Literature:

- **American Fireworks News** is the fireworks magazine no pyro should be without!

- **Burning Sage Publications** publishes several books and periodicals especially of interest to the Class C aficionado.

- **Canadian Pyrotechnics - Future Growth of Fireworks Industries in Canada - A Hobbyists Perspective** is a scholarly paper of interest to any Canadian pyro.

- **Chemical Publishing** publishes Lancaster's classic text "Fireworks, Principles and Practice", along with several other pyrotechnic titles.

- **Fireworks** is a periodical on our favorite subject, published in Great Britain. The publisher, John Bennett, also maintains a **News** page containing updates to issues covered in Fireworks.

- **HOW to DESIGN, BUILD and TEST SMALL LIQUID-FUEL ROCKET ENGINES** is the title of an on-line book. It's not really pyrotechnics, unless you're looking for a way to lift that fragile 24" shell up a couple of miles, but hey - it's very interesting!

- **Prometheus Publications** sells both new and old pyro books.

- **Propellants, Explosives, Pyrotechnics** is An International Journal Dealing with Scientific and Technological Aspects of Energetic Materials

- **Pyro** magazine is aimed at the consumer of class C fireworks.

- **Safety of Reactive Chemicals and Pyrotechnics** is a book in Elsevier's catalog.

- **The Journal of Pyrotechnics** is a scholarly periodical on pyrotechnics published by Ken and Bonnie Kosanke.

- **Wizards, Inc.** sells books and videos on special effects, including stage & film pyro.

Pyrotechnic Supplies:

- **SkyLighter**, my favorite pyro supplier, has a great web site! The entire catalog is on-line (including new items not listed in the current printed catalog), and Harry accepts E-mail orders from established customers.

- **Davey Bickford**, is the well-known French manufacturer of ignition products.

- **Capplugs** make plastic pipe plugs that are very useful for protecting mortars before a show - especially on multi-day setups.

- **CMB Insurance** offers insurance to the pyro trade in the UK.

- **Custom Rocketry** has an interesting offer.

- **Elephant Brand Black Powder** home page.

- **ElectroStatics** sells systems to control static electricity and the related contamination.

- **F.P. Engbert Discount Guns**, makes and sells great HDPE mortars.

- **FireFox Enterprises** is a major supplier of pyro and rocketry supplies.
- **Four-D Enterprises**, developed StickMatch, which makes lancework reasonable.
- **Goex Black Powder** home page. One of our most important vendors!
- **Harrison Pyro-Tools**, is has an excellent range of fine tools for the pyro enthusiast.
- **Hummel Croton**, is an industrial chemical supplier, and has a lot of information on pyro chemicals on their web site.
- **Impulse Reactions**, specializes in rocket tooling.
- **Iowa Pyro Supply** is a newer supplier and is still growing.
- **Kremer Pigments**, is a German company which might have that odd resin you need. They list a store in NYC, too.
- **Lakeland Industries** has some nice safety gear for shooting.
- **Luna Tech** manufactures the very well regarded PyroPak line of precision pyrotechnic products.
- **MagicFire** manufactures an electronic shell fuse which allows very precise timing.
- **Midwest Wood Specialties** manufactures wooden plugs for fireworks mortars.
- **Nomex** is worn by race car drivers for fire protection. Some pyros do too.
- **ODA Enterprises** produces a very nice and reasonably priced line of electrical shooting gear.
- **New!!** **Oxral** is one of the largest manufacturers of electric matches for the fireworks industry.
- **Plásticos Gamón** is a plastics manufacturer in Spain that has a fascinating collection of plastic items for the pyrotechnic manufacturer..
- **Precision Weighing Balances** has an amazing selection of balances at excellent prices.
- **Precocious Pyrotechnics** is a top rate supplier from Minnesota - the president is a PGII Grand Master!.
- **Pyrodigital Consultants** sell highly regarded computer firing systems and the Show Director software.
- **New!!** **Pyro Magic** is a supplier of firing systems in California..
- **PyroMate** sell excellent firing systems.
- **Pyro Safety Co**, operated by Tom Perigrin, sells firing panels and low power FM transmitters, with more products on the drawing board.
- **New!!** **PYRO-Smålands Krutbruk** is a special effects supplier in Sweden.
- **Pyro Systems** in Great Britain makes a computer controlled firing system.
- **Pyro Tech**, is a British supplier of pyro equipment and shows.
- **Pyrotechnics Management, Inc.** makes the FireOne computerized firing system.
- **Pyrotek**, supplies many chemicals needed for pyrotechnics.
● **Pyrotek** is also the name of a special effects supplier in Canada!
● **Rabbat Productions** sells fake fireworks for use where the real thing can't.
● **Rafaleurs** sound like a very interesting adjunct to an electrical firing system.
● **Saulsberry Fire Equipment** is an excellent source for fire extinguishers and firemen's protective clothing. You can get a firemans helmet there for protected shooting. It's what I wear!
● **Seminole Wire**, supplies that ubiquitous yellow wiring we use by the mile for electrically fired shows.
● **Société de Montage Cablâge Electronique** builds and sells electric shooting equipment in France.
● **H.A. Stiles**, may be just the place for those 4,000 plugs you need for your new mortars.
● **The Supply Cache** sells safety gear that can be used when shooting fireworks.
● **Thunder & Lightening Tool** makes some really beautiful pyro tools.
● **Theatre Effects** has quite an extensive line of special effects products.
● **Tombstone Productions** sells pyro special effects gear.
● **Universal Wire Cloth** makes beautiful, very accurate, and quite expensive sieves.
● **Bob Weaver** publishes an insanely great guide to Class C fireworks!
● **Sam Woodward** makes what appear to be some very good fire control panels in Great Britain.

**Fireworks Vendors (Displays and Class B):**

● **Acme Fireworks** is in Australia. I always wondered where the Road Runner got those big Acme firecrackers!
● **Alonzo Fireworks Display** is a display operator in upstate New York.
● **American Fireworks** is another display operator in upstate New York.
● **American Fireworks** is also the name of a company in Hudson, Ohio. If you’re more comfortable reading Spanish, try **Latin American Fireworks**, which is the same company with a latino twist.
● **Ampleman Pyrotechnics** is a very well known Canadian display operator.
● **The Arasan Fireworks Factory** is in Sivakasi, India.
● **Artifi-Ciel** is a display operator in Quebec.
● **Atlas Advanced Pyrotechnics** now has a home page.
● **Atlas Enterprises** operates out of Fort Worth, Texas.
● **Avantgarde Drachen & Feuerwerk** in Germany features shows that combine kites and fireworks!
● **Ayyan Fireworks** in India makes "Bunny Brand" fancy fireworks. They also list among
their products "Atom Bombs"!!

- **Bay Fireworks** has a page with lots of graphics - be patient!
- **Roy Bern Fireworks** wants to do fireworks at your British wedding.
- **Brezac Artifices** is a large French display operator.
- **Broekhoff** is a Dutch display operator.
- **Brunchú** is a major display operator in Spain.
- **Burns Fireworks** is a display operator in Ontario, Canada.
- **Business Builders Ltd.** is in the promotions business in Britain.
- **Cienfuegos** is a manufacturer, display operator and fireworks retailer in Argentina.
- **Classic Fireworks** appears to specialize in computer fired shows.
- **Dyberry Fireworks** sells class C & B they also do displays.
- **Dymax** caters to the entertainment industry.
- **Entertainment Fireworks Inc.** is a major display operator in the Pacific Northwest.
- **Euro Bengale** is a French display operator (site in French only).
- **Explomo** is a Singapore based display operator.
- **Fantastic Fireworks** is a British display operator.
- **Féérie** is a French display operator (site in French only).
- **Festi-Fêtes** is a French display operator.
- **Feuerwerkerei Anton Schwab** is a German display operator.
- **Fiatlux** is a world class Canadian display operator.
- **Fire Art by Griz** is a display operator in Alaska.
- **Fireworks Fascination** is a display operator in central New York.
- **Fireworks F/X** handles a complete line of consumer and professional fireworks in Nova Scotia.
- **Fireworks West Internationale** have quite a nice page.
- **Foti’s International Fireworks** is one of the larger and better known Australian display operators.
- **Göteborg Fireworks Factory** is a fireworks manufacturer in Sweden.
- **Groupe F** is a French display operator (site in French only).
- **Fireworks By Grucci** is one of the best, if not the best display operator.
- **Hands Fireworks** supply both family and display fireworks in Canada.
- **HFM Pyrotechnics** is a display operator in Great Britain.
- **Howard & Sons Pyrotechnics** is a display company from Australia.
- **Syd Howard Fireworks International** is a display company in Australia. The owners of the
two Howard companies are related, but the companies are completely separate.

- **Ignite Fireworks** ia a British fireworks company.
- **Infinity Visions** does large scale pyromusical and laser shows.
- **Inspiration Firework Concerts** supplies choreographed shows in Great Britain.
- **Inter-Oriental Fireworks** manufacture fireworks on china.
- **J&M Displays** is a fine display company in Iowa.
- **JAN Feuerwerk** is a German display company.
- **Jianhu Fireworks and Firecrackers** is a old Chinese manufacturer with 36 factories and a research institute.
- **Jubilee Fireworks** is a British display company. I think they also maintain the Fireworks page that lists itself as "The UK's premier pyrotechnic site".
- **Kimbolton Fireworks** is the famous fireworks company founded by Rev. Ron Lancaster.
- **Kaliswari Fireworks** is a fireworks manufacturer in India.
- **Lantis Fireworks & Lasers** is a display company that also does laser effects.
- **Legion Fireworks** is a display vendor in eastern New York.
- **Les Créations Explosives** is a display operator in the Canadian Maritimes.
- **Marmajou** is a French display operator.
- **Martarello** is an Italian display operator.
- **Masters of Fire** is a display provider in Germany.
- **Maximum FX** is a British fireworks retail, special effects, and display operator.
- **Melrose Pyrotechnics** is a display company from USA.
- **Morani Fireworks** is a major display operator in India.
- **Nanhai Native Produce Import&Export Company of Guangdong** is a Chinese supplier of consumer and display fireworks.
- **NICO Pyrotechnik** is a German pyrotechnic manufacturer.
- **Ostsee Pyrotechnik** is a German display operator.
- **Parente** is a major Italian display operator.
- **Partner Pyro** is a German display operator and retailer of garden fireworks.
- **Performance Pyrotechnic Associates** is a high end supplier of outdoor and indoor pyro.
- **Prinz Feuerwerk Laser** is a German display operator.
- **Pyro-Art** is a German display operator.
- **Pyroflash** is a German display and special effects operator.
- **Pyroformance** is a German display operator.
- **Pyro Spectaculars** is a major display operator, doing world class shows.
- **Pyro Tech** supplies shows and shooting systems to the British market.
- **Pyrotecnico** may be a fairly new company, but the Vitale family has been a force in American fireworks for many generations.
- **Quartz Productions** is a British theatre firm that can do indoor pyro for you.
- **Rozzi's Famous Fireworks** puts on some of the most beautiful shows I've ever seen.
- **Sam Woodward Pyrotechnics and Fireworks** does all sorts of shows in Britain.
- **Sandling Fireworks** sells firework packs and operator fired displays in the UK.
- **Shellscape** sells many things in the UK, as they say, "From complete event management to safe and sane fireworks packs".
- **Skutka** is a fireworks company in both halves of the former Czechoslovakia.
- **Skyfire** is a display operator in Wales.
- **Skyfire Feuerwerk** is a display operator in Germany.
- **Spezialeffekte Kerschensteiner** is a special effects and fireworks company in Germany.
- **Starfire Pyrotechnics Ltd.** is a not for profit fireworks company in Britain that does shows for organizations that otherwise could not afford them.
- **Sundravel Match Industries** in India manufacture fireworks "well known for its 100% safe explosion and princely performance". They also manufacture potassium chlorate for export.
- **Sunny Fireworks** is a fireworks manufacturer in China.
- **Sunsong Fireworks** is a fireworks manufacturer in China, with a totally different site hosted in Spain.
- **Supreme Fireworks** is a British display operator.
- **Wedding World** can help you out if you're getting married in Great Britain and think some fireworks would spice up the event.
- **Western Enterprises** is a display manufacturer and operator in Oklahoma.
- **David Whysall Fireworks** is a Canadian manufacturer, display operator, and retail sales outlet.
- **Xarxa Teatre** is a Spanish theatre troupe who incorporate fireworks into their performances.
- **Young Explosives** is a display company in upstate New York that has the excellent judgement to employ me as a shooter!
- **Zambelli Fireworks** is a great international display company out of Pennsylvania.
- **Zenith Pyrotechnology** is a special effects company.
- **Zündwerk** is a fireworks company in Germany.

**Fireworks Vendors (Class C):**
- **A&W Sales Co.** sales class C out of Muncy, Pennsylvania.
ABC Sales and Marketing maintains the Fireworks Central site, which has pointers to most of the Federal agencies that regulate pyro activities. They also provide a high-level guide to Consumer Fireworks.

ACME Discount Fireworks - isn't that where the Roadrunner got his materials for harassing Wiley E. Coyote?.

Beihai Fireworks and Firecrackers General Factory exports fireworks from China.

Bem Fireworks sell class C from Canada.

Big Bang Canada is a Canadian fireworks retailer.

Big Bang Cannons are not really fireworks, but they do use fire to make a big bang!

Black Cat Fireworks are one of the best known of all trademarks in the Class C arena.

Bem Fireworks Sells Class C in Quebec, Canada.

Bracknell Fireworks sell "self-ignition packs" in England.

Chinese Fireworks Co. Ltd. sell fireworks in the North of England.

Commonwealth Displays sell Class C in Southgate, Michigan.

Diamond Fireworks is a British fireworks retailer with an unusually informative web presence.

Display Fireworks supplies consumer fireworks to the British market.

Festives Manufacturing makes British Party Poppers for the American market.

Fireworks Express is a site advertising for many independent outlets.

Fireworks Factors is a British vendor of garden fireworks.

Fireworks Haven is a New Mexico vendor with several locations.

Hunan Provincial Firecrackers & Fireworks Import and Export Corporation imports and exports Red Lantern fireworks from China.

Fyrvaerkeri sells consumer fireworks in Denmark.

Hands Fireworks sell class C and display fireworks in Ontario, Canada.

Jerry's Discount Fireworks is in the great state of Alaska, where the nights can be very short, or very long!

JR's Fireworks sells class C in Alabama.

Kellners Fireworks home page.

London Fireworks sells consumer fireworks in Thunder Bay, Canada.

Mad Dog Fireworks is one name of a rather large fireworks retail outlet company.

Magic Vision sells consumer fireworks in Germany.
- Marty Olsen sells class C in Appleton, Wisconsin around the 4th of July.
- Matt's Class C Fireworks is located in Melbourne, Australia.
- Mc-Boden is a swedish motorcycle shop who also supplies pyrotechnics to the Swedish market (so I'm told!).
- Neptune Fireworks sells class C from Florida.
- Niles Fireworks sells class C in Russell, Pennsylvania.
- Patriotic Fireworks is one of the few Class C fireworks manufacturers left in the US.
- Phantom Fireworks is one well known vendors of class C.
- Pop Crackers aren't really fireworks, as there is no fire involved, but may be just the thing for those who want some noisemakers but live where most fun is illegal.
- Ray-Vin sells minature carbide cannons.
- Shelton Fireworks sell class C in Missouri & Indiana.
- The Firework Factory sells class C.
- Upper Canada Fireworks is a Canadian fireworks retailer in the York area.

Pages that are clearly pyro related but unclassifiable:
- Pyrotechnia Pyrotechnics Group - one thing for sure, whoever put this page up is clueless about HTML.

And here are a couple of interesting, if rather silly, pages:
- How high can an anvil fly?
- Ever have a really bad dream about dud recovery?
- Fun with grapes
- Strawberry Pop-Tart Blow Torches
- Lighting a grill with Liquid Oxygen. What more can I say? This dude was even the subject of a Dave Barry column a little while ago!
- Interested in fire breathing?
- How about getting your flaming juggling torches to have colored flames?
- You might be a pyro if....

Pages that are hostile to fireworks:
- And a reminder that those things can put your eye out!
- The National Campaign for Firework Reform in England is trying to tighten fireworks regulation in the UK.
- The Daily Iowan published this very hostile (and misleading) editorial.
- And here is Today's History Lesson: Fireworks and Firewater.
Clueless in Cyberspace - Pages that are hopelessly out of date:

- The cities of Setagaya-ku and Kawasaki-city, which are opposite each other across the Tamagawa river, jointly shoot the Futago-Tamagawa fireworks show. Although the show does not have a page (that I know of), Nihon Sun Microsystems broadcast the show live on the Internet.

Please send comments and new links I should add to info@pyropage.com.

This page last updated December 22, 1999
Method of preparing a cast solid explosive product

Abstract

A solid explosive composition is made by curing a mixture of a 20-50% by weight of a liquid matrix, 50-80% by weight of an essentially anhydrous inorganic chlorate or perchlorate salt, and 0-15% of a nitrate salt after transferring said mixture to a mold. The matrix can include 50-84% by weight of a non-explosive liquid fuel selected from the group consisting of polyhydric alcohols, lower aliphatic alcohols, ketones, and hydrocarbons; 0-15% by weight of a nitrate oxidizer salt; 0-15% by weight water; 0-15% by weight of a thickener; and 0-5% by weight of an acid.

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Assignee: Dyno Nobel Inc. (Salt Lake City, UT)
Appl. No.: 201341
Filed: February 22, 1994

U.S. Class: 149/109.6; 149/77; 149/83
Intern'l Class: C06B 021/00
Field of Search: 149/109.6,83,77

References Cited [Referenced By]

U.S. Patent Documents

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3617402 Nov., 1971 Knight, Jr. et al..
1. A method of preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of at least one liquid, water-soluble polyhydric alcohol of low volatility;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate oxidizer salt in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap
but which will cure with time and increase in sensitivity during curing to form a solid that can be
detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the
matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a
No. 8 blasting cap.

2. A method of preparing a cast solid explosive product for use as a primer and a small diameter
explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of at least one liquid, water-soluble polyhydric alcohol
of low volatility, and water;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate oxidizer salt in
proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap
but which will cure with time and increase in sensitivity during curing to form a solid that can be
detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the
matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a
No. 8 blasting cap.

3. A method of preparing a cast solid explosive product for use as a primer and a small diameter
explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of at least one liquid, water-soluble polyhydric alcohol
of low volatility, a thickener, and water;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate oxidizer salt in
proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap
but which will cure with time and increase in sensitivity during curing to form a solid that can be
detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the
matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a
No. 8 blasting cap.

4. A method of preparing a cast solid explosive product for use as a primer and a small diameter
explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of at least one liquid, water-soluble polyhydric alcohol
of low volatility, and a solution of water and at least one dissolved oxidizer salt selected from the group
consisting of a nitrate, a chlorate, a perchlorate and mixtures thereof;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate oxidizer salt in
proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap
but which will cure with time and increase in sensitivity during curing to form a solid that can be
detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the
matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

5. A method of preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of at least one liquid, water-soluble polyhydric alcohol of low volatility, a thickener, and a solution of water and at least one dissolved oxidizer salt selected from the group consisting of a nitrate, a chlorate, a perchlorate and mixtures thereof;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate oxidizer salt in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

6. The method of claim 4 or 5, wherein the nitrate oxidizer salt in the matrix is selected from the group consisting of calcium nitrate, ammonium nitrate, sodium nitrate and mixtures thereof.

7. The method of claim 4 or 5, wherein the nitrate oxidizer salt in the matrix is calcium nitrate.

8. The method of claim 4 or 5, wherein the perchlorate oxidizer salt in the matrix is sodium perchlorate.

9. The method of claim 3 or 5, wherein the thickener is a guar gum.

10. The method of claim 1, 2, 3, 4, or 5 wherein the step of mixing the matrix and the dry sodium perchlorate oxidizer salt results in a matrix-salt mixture wherein the dry sodium perchlorate oxidizer salt makes up between 50% and 80% of the matrix-salt mixture.

11. The method of claim 1, 2, 3, 4, or 5 wherein the step of obtaining a liquid matrix is the step of obtaining a liquid matrix wherein the at least one liquid, water-soluble polyhydric alcohol makes up at least 50% of the matrix.

12. A method for preparing a cast solid explosive product for use as a primer and a small diameter explosive consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of diethylene glycol;

b) mixing at ambient temperature the liquid matrix and dry sodium perchlorate in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to form a solid explosive product that can be detonated with a No. 8 blasting cap.
13. A method for preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of diethylene glycol and water;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

14. A method for preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of diethylene glycol, a thickener, and water;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

15. A method for preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of diethylene glycol and a solution of water and at least one dissolved oxidizer salt selected from the group consisting of a nitrate, a chlorate, a perchlorate and mixtures thereof;

b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

16. A method for preparing a cast solid explosive product for use as a primer and a small diameter explosive, consisting essentially of the steps of:

a) obtaining a liquid matrix consisting essentially of diethylene glycol, a thickener, and a solution of water and at least one dissolved oxidizer salt selected from the group consisting of a nitrate, a chlorate, a perchlorate and mixtures thereof;
b) mixing at ambient temperature the liquid matrix with dry sodium perchlorate in proportions to form an initially pourable matrix-salt mixture which is not sensitive to a No. 8 blasting cap but which will cure with time and increase in sensitivity during curing to form a solid that can be detonated with a No. 8 blasting cap, said curing taking place without deliberate crosslinking of the matrix-salt mixture; and

c) allowing the matrix-salt mixture to cure to form a solid explosive product that can be detonated with a No. 8 blasting cap.

17. The method of claim 15 or 16, wherein the perchlorate oxidizer salt in the matrix is selected from the group consisting of ammonium perchlorate, sodium perchlorate and mixtures thereof.

18. The method of claim 15 or 16, wherein the perchlorate oxidizer salt in the matrix is sodium perchlorate.

19. The method of claim 15 or 16, wherein the nitrate oxidizer salt in the matrix is selected from the group consisting of calcium nitrate, ammonium nitrate, sodium nitrate and mixtures thereof.

20. The method of claim 15 or 16, wherein the nitrate oxidizer salt in the matrix is calcium nitrate.

21. The method of claim 14 or 16, wherein the thickener is a guar gum.

22. The method of claim 12, 13, 14, 15, or 16 wherein the step of mixing the matrix and the dry sodium perchlorate results in a matrix-salt mixture wherein the sodium perchlorate makes up between 50% and 80% of the matrix-salt mixture.

23. The method of claim 12, 13, 14, 15, or 16 wherein the step of obtaining a liquid matrix is the step of obtaining a liquid matrix wherein diethylene glycol makes up at least 50% of the matrix.

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**Description**

**BACKGROUND OF THE INVENTION**

1. Field:

The invention is in the field of explosives of the solid cast primer or booster explosive type as well as explosives in general of small diameter.

2. State of the Art:

With the advent of ammonium nitrate and fuel oil mixtures, known as ANFO, into the explosives industry in the early 1950's, and of other lesser or more sensitive explosive mixtures since that time, ways were sought to develop an initiator for these materials in surface and underground blasting. As a result, the cast primer or booster was developed. The cast primer is made from self-explosives such as trinitrotoluene ›TNT!, cyclotrimethylenetrinitramine ›RDX!, pentaerythritol tetranitrate ›PETN!, and mixtures thereof such as Composition B which contains about 60% RDX, 40% TNT, and some wax as a desensitizer. The first cast products were made with a variety of sensitive cores such as PETN or a coiled detonating fuse.
The known and presently used process for making such cast primers or boosters consists of melting the above-mentioned sensitive explosives or combinations thereof, often at temperatures approaching 100 degrees Centigrade or higher, and casting the melted explosive into molds. The greatest hazard posed by the operation is the risk that the temperature control means may fail, and thus, the explosive may reach decomposition temperature and explode. Aside from this grave risk, the process is inherently dangerous in that self-explosives are being handled which are subject to shock detonation even at lower temperatures. Furthermore, in handling the cast products an extremely sensitive dust may be produced which is even more hazardous than the cast primer itself.

There are disadvantages other than the risk of explosion. The materials used are expensive and some are not available from domestic sources. The molds must, of course, be able to withstand the heat of the melted explosive. Nevertheless, such primers are widely used because they have the advantage of being relatively water resistant. Other combinations of primers and boosters based on water gel and or emulsion-based compositions may display only some water resistance or no water resistance at all.

In the past, there have been attempts to formulate sensitive slurry or emulsion type explosive compositions using aqueous solutions of inorganic chlorate and perchlorate salts, i.e., salts of either the chlorate (ClO$_3$) or perchlorate (ClO$_4$) ions. These inorganic chlorate and perchlorate slurries and emulsions have serious drawbacks. Their density has to be carefully controlled by using gases (as small bubbles), micro-balloons or similar inert, insensitive, materials that complicate processing and detract from the energy of the primers.

It is an object of the present invention to make a castable primer explosive to maximize borehole pressure (which is a function of both velocity and density) that uses sensitive inorganic chlorate and perchlorate salts, especially the relatively shock-insensitive sodium perchlorate, instead of self-explosives.

It is another object of the invention to make a cast primer or booster at ambient temperatures and thus avoid the hazard of working with explosives at elevated temperatures.

SUMMARY OF THE INVENTION

According to the invention, a castable primer explosive composition is made up by combining 20-50% by weight of a liquid matrix and 50-80% of a dry insensitive oxidizer salt or mixture of oxidizer salts which primarily comprises a dry inorganic chlorate or perchlorate salt. The mixture is hereinafter referred to as matrix-dry salt mixture. It was discovered by the inventors, that such a mixture cures to a solid product if it contains a substantial amount of a dry perchlorate or chlorate salt. Curing takes place rather quickly, but, before it does, the matrix-dry salt mixture can be pressed, poured, or cast into a mold. The molded product can be detonated with about an 8 gram pentolite detonator, or, preferred embodiments containing higher amounts of inorganic perchlorates can be detonated with a No. 6 or No. 8 blasting cap.

The matrix can include: 50-84% by weight of a non-explosive liquid fuel, preferably a polyhydric glycol such as diethylene glycol; 0-15% by weight of an inorganic nitrate oxidizer salt, such as ammonium nitrate, potassium nitrate, sodium nitrate, or calcium nitrate; 0-15% percent by weight water; 0-15% by weight of a water-soluble polymer thickener such as guar gum; and 0-5% weight of an acid such as glacial acetic acid. Except for the water soluble polymer thickeners, the preferred fuel is a liquid, water soluble, oxygenated organic material of low volatility. Examples of the preferred fuel include polyhydric alcohols such as glycerol, ethylene glycol, diethylene glycol, triethylene glycol, tetraethylene glycol,
propylene glycol, dipropylene glycol, tripropylene glycol, and mixtures thereof. Also preferred are still bottoms remaining from the purification of the above because of their low cost. Depending on their composition, still bottoms can be used alone or in combination with any of the above polyhydric alcohols. As an additional option the matrix can include a cross-linking agent such as potassium pyroantimonate.

The final mixture includes 50-80% by weight of a dry, inorganic chlorate or perchlorate salt. Sodium perchlorate is preferred but sodium chlorate, ammonium chloride, and ammonium perchlorate can be used. The final mixture can also include an additional 0-15% by weight of a dry nitrate oxidizer salt such as ammonium nitrate, calcium nitrate, sodium nitrate, potassium nitrate, or mixtures thereof in addition to any nitrate salt that may be included in the matrix. Thus, as the price and availability of the ingredients vary, the primers can be formulated to minimize cost.

A rough guide to formulating the primers of this invention is to proportion the inorganic oxidizers and the organic fuels so that all of the hydrogen atoms in the formulations are converted to water and all the oxygen atoms in the formulations are converted to carbon monoxide. However, wide departures from this guide yield primers with good mechanical properties that detonate reliably with a No. 8 blasting cap.

Initially, upon mixing the liquid matrix with the dry, inorganic oxidizer salt or salts, the composition forms a pourable or pumpable mixture. On standing anywhere from 20 minutes to several hours depending on the formulation and temperature, the mixture cures to a solid, waxy mass with good mechanical properties. The cure mechanism is not well understood, especially with those formulations in which the water soluble polymer is not deliberately crosslinked, but may involve formation of alcohates, including cyclic glycolates and hydrates of the dry inorganic salts.

This method of making a solid, castable, explosive is a safety improvement over prior art cast primers, especially when sodium perchlorate is employed, because none of the starting materials is a self-explosive and it is not necessary to heat the mixture in order to obtain an extrudable, pourable, or pumpable composition. In fact, a mildly exothermic reaction takes place in making up the matrix. Cooling the matrix before adding the dry product can keep the mixture pourable for a longer period of time, i.e., extend the pot life. The resulting cast primer is economical, heat resistant, modestly water resistant, and has an explosive strength equivalent to that of prior art cast primers.

Another distinct advantage of the primers of the present invention over the prior art is the fact that their performance in terms of shock wave velocity improves as their density increases. The optimum density for certain formulations is 1.80 grams/cc. Surprisingly, formulations show diminished activity and performance down to 1.50 grams/cc.

This is in direct contrast with many primers which give reduced velocity as the density increases. For example, micro-balloons or air entrapment must be used to lower density in order to make primers from materials such as ANFO emulsions or slurries. Also, the self-explosives usually require blending to give an optimum density of about 1.5 to 1.6 grams/cc.

Of course, the objective is to maximize borehole pressure which is a function of both velocity and density.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

The solid explosive of the invention is made from a mixture of a liquid matrix with a dry oxidizer salt or
mixture of dry oxidizer salts, i.e., a matrix-dry salt mixture. After combining the matrix-dry salt mixture, it is transferred to the primer container or mold. The molded mixture cures to a solid product in about two hours more or less depending on temperature, the fluidity of the mixture when made, and the amount of dry salt used.

The matrix can include: 50-84% by weight of a non-explosive liquid fuel such as diethylene glycol, other polyhydric glycols, lower aliphatic alcohols, ketones, and hydrocarbons such as fuel oil, or mixtures thereof; 0-15% by weight of water; 0-15% by weight of an inorganic nitrate salt such as calcium nitrate, ammonium nitrate, or sodium nitrate; 0-15% of a water soluble polymeric thickener such as guar gum; and 0-5% by weight of an acid such as glacial acetic acid.

The oxidizer salt is an inorganic chlorate or perchlorate salt such as ammonium chlorate, sodium chlorate, ammonium perchlorate, sodium perchlorate, and mixtures thereof. A substantial portion of the oxidizer salt must be supplied in a dry form in order to obtain primers with good mechanical properties. The dry oxidizer salt can include lesser amounts of dry nitrate salts. The matrix-dry salt mixture can contain 50-80% by weight of a dry inorganic chlorate or perchlorate, 0-15% by weight of a dry nitrate salt; and 20-50% by weight matrix.

Sodium perchlorate is the preferred salt from a safety standpoint. Ammonium perchlorate is also quite safe to handle but is much more expensive. These salts yield a final product that is much safer to handle.

The higher the amount of perchlorate, the greater the density and ease with which the primers are detonated. In a first embodiment of the invention, the matrix has the following formula:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene Glycol</td>
<td>75%</td>
</tr>
<tr>
<td>Water</td>
<td>10%</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>12.4%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>2.5%</td>
</tr>
<tr>
<td>Glacial Acetic Acid</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

In making up the matrix, the calcium nitrate is first dissolved in water. This solution is added to the non-explosive liquid fuel, i.e., diethylene glycol, wherein a mild exothermic reaction takes place. It is desirable to keep the temperature of the matrix low or to lower it after the exothermic reaction. Keeping the temperature low extends the time in which the freshly made-up matrix-dry salt mixture remains transferable.

After adding the aqueous solution containing the nitrate to the non-explosive liquid fuel, guar gum is then suspended in an aliquot of the liquid fuel, water, and the nitrate salt. Once suspended it is added to the liquid fuel-water-nitrate mixture.

The matrix can include part of the overall amount of sodium perchlorate as an aqueous solution thereof such as is available from commercial sources. Of course, if added to the matrix as a solution, the amount of water added as such is reduced to keep the overall amount of water within an acceptable range.
The glacial acetic acid is added next and mixed. Glacial acetic acid is a viscosity enhancer in the guar system. The matrix is now ready to be mixed with the dry salt. The matrix is thin and watery on being made. In other words it is of low viscosity before the guar dissolves. It thickens with time as the guar dissolves. On standing for several hours or overnight it becomes thick and honey-like. However, there is no change or difference in the final product whether the matrix is used fresh or aged.

Dry sodium perchlorate salt was added to the matrix to make up a mixture that was 67% by weight sodium perchlorate and 33% by weight matrix. The sodium perchlorate used in this example and the other examples below was essentially anhydrous, i.e., less than a percent or so water. However, it is believed that since some water is present in acceptable formulations that it is not necessary that the dry salt be essentially anhydrous and that perhaps even the monohydrate is dry enough to be used to form the fluid liquid matrix-dry salt mixture.

It was discovered by the inventors, that the fluid mixture is not sensitive to a No. 8 blasting cap while the finished product that hardens after about two hours is sensitive to a No. 8 blasting cap. This greatly adds to the margin of safety in handling the mixture. The final product had a density of 1.49 grams/cc. A one pound charge was detonated on a steel plate of 3/4 inch thickness and blasted a hole in the plate.

In a second embodiment, the matrix has the following formula:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqueous Solution of Sodium Perchlorate (61%)</td>
<td>30%</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>10%</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>57%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>2.9%</td>
</tr>
<tr>
<td>Glacial Acetic Acid</td>
<td>.1%</td>
</tr>
</tbody>
</table>

Dry sodium perchlorate was added to the matrix to make a final product that was 60% dry sodium perchlorate and 40% matrix. The final product had a density of 1.40 grams/cc. A one pound charge was sensitive to a No. 8 blasting cap. The charge was detonated on a 3/4 inch thick steel witness plate and caused spalling of the plate.

In a third embodiment, the matrix had the following formula:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqueous Solution of Sodium Perchlorate (61%)</td>
<td>20%</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>10%</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>67%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>3%</td>
</tr>
<tr>
<td>Glacial Acetic Acid</td>
<td>.1%</td>
</tr>
</tbody>
</table>
Dry sodium perchlorate was added to the matrix to make a final product that was 65% dry sodium perchlorate and 35% matrix. The final product had a density of 1.40 grams/cc. A one pound charge detonated with a No. 8 blasting cap. The charge was detonated on a 3/4 inch thick steel witness plate and caused spalling of the plate.

In a fourth embodiment, the matrix had the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqueous Solution of Sodium Perchlorate (61%)</td>
<td>35%</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>10%</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>53.5%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Dry sodium perchlorate was added to the matrix to make a final product that was 55% dry sodium perchlorate and 45% matrix. The final product had a density of 1.40 grams/cc. A one pound charge detonated with a No. 8 blasting cap.

In a fifth embodiment, the matrix had the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqueous Solution of Sodium Perchlorate (61%)</td>
<td>25%</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>73%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>2%</td>
</tr>
</tbody>
</table>

Dry sodium perchlorate was added to the matrix to make a final product that was 62% dry sodium perchlorate and 38% matrix. The final product had a density of 1.54 grams/cc. A one pound charge was sensitive to a No. 8 blasting cap. The charge was detonated on a 3/4 inch thick steel witness plate and blasted a hole in the plate.

In sixth, seventh, eighth, and ninth embodiments of the invention, the matrix had the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene Glycol</td>
<td>74%</td>
</tr>
<tr>
<td>Water</td>
<td>11%</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>12%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>2%</td>
</tr>
</tbody>
</table>
In the sixth embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 68% dry sodium perchlorate and 32% matrix. A 250 gram charge was sensitive to a No. 8 blasting cap. The charge was detonated on a 3/4 inch thick steel witness plate and blasted a hole in the plate.

In the seventh embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 53% dry sodium perchlorate and 32% matrix. The remaining 15% of the final product was made up with additional calcium nitrate. A 250 gram charge was sensitive to a No. 8 blasting cap.

In the eighth embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 53% dry sodium perchlorate, 32% matrix. The remaining 15% of the final product was made up with sodium nitrate. A 250 gram charge was sensitive to a No. 8 blasting cap.

In the ninth embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 60.5% dry sodium perchlorate and 32% matrix. The remaining 7.5% of the final product was made up with additional sodium nitrate. The final product had a density of 1.72 grams/cc. A one pound charge was sensitive to a No. 8 blasting cap. The charge was detonated on a 3/4 inch thick steel plate and blasted a 1/2 to 3/4 inch hole in the plate.

In a tenth and eleventh embodiment of the invention, the matrix had the following formula:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene Glycol</td>
<td>84%</td>
</tr>
<tr>
<td>Water</td>
<td>12.5%</td>
</tr>
<tr>
<td>Guar Gum</td>
<td>2.4%</td>
</tr>
<tr>
<td>Glacial Acetic Acid</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

In the tenth embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 64.5% dry sodium perchlorate and 28% matrix. The remaining 7.5% of the final product was made up with calcium nitrate. The final product had a density of 1.67 grams/cc. A one pound charge was sensitive to a No. 8 blasting cap.

In the eleventh embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 53% dry sodium perchlorate and 32% matrix. The remaining 15% of the final product was made up with calcium nitrate. The final product had a density of 1.64 grams/cc. A one pound charge was sensitive to a No. 8 blasting cap.

In a twelfth embodiment, the matrix has the following formula:
Diethylene Glycol 75%
Water 11.5%
Calcium Nitrate 13.5%

In the twelfth embodiment using the above matrix, dry sodium perchlorate was added to the matrix to make a final product that was 58% dry sodium perchlorate and 32% matrix. The remaining 10% was sodium nitrate. The final product had a density of 1.75 to 1.80 grams/cc with good mechanical properties. A one pound charge was sensitive to a No. 8 blasting cap and blasted a hole 1.0 to 1.5 inches in diameter in a 3/4 inch thick steel witness plate.

Tests on the various examples showed that velocity ranged from 19,000 to 23,000 ft/sec depending on the formulation for the various final products.

Whereas this invention is here illustrated and described with reference to embodiments thereof presently contemplated as the best modes of carrying out such invention in actual practice, it is to be understood that various changes may be made in adapting the invention to different embodiments without departing from the broader inventive concepts disclosed herein and comprehended by the claims that follow.

* * * * *
Cast explosive composition with microballoons

Abstract

The invention comprises a cap-sensitive, cast, solid explosive composition usable as a booster or primer and as a seismic explosive composition. The cast, solid explosive composition contains dispersed microballoons which impart important and surprising advantages.

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Assignee: Dyno Nobel Inc. (Salt Lake City, UT)
Appl. No.: 892127
Filed: July 14, 1997

U.S. Class: 144/3; 149/2; 149/77; 149/83
Intern'l Class: C06B 045/18; C06B 029/08
Field of Search: 149/2,18,77,3,83

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3684594 Aug., 1972 Evans.
4207125 Jun., 1980 Grant.
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4547234 Oct., 1985 Takeuchi et al. 149/77.
4554032 Nov., 1985 Hattori et al. 149/77.
1. A cap-sensitive, cast, solid explosive composition having reduced impact sensitivity and consisting essentially of from about 50% to about 80% by weight sodium perchlorate, from about 10% to about 40% diethylene glycol, from about 0% to about 10% water and from about 0.01% to about 4% microballoons, with the amount of microballoons being effective to reduce the impact sensitivity of the composition.

2. A composition according to claim 1 wherein the microballoons are selected from the group consisting of glass, plastic, perlite, polystyrene, ceramic and mineral.

3. A composition according to claim 2 wherein the microballoons are plastic.

4. A composition according to claim 3 wherein the microballoons have their surface modified with organic or inorganic polymer coatings.

5. A composition according to claim 1, additionally consisting essentially of a thickening agent.

6. A composition according to claim 1, wherein the microballoons are present in an amount of from about 0.05 to about 1.6% by weight.

7. A composition according to claim 1 having a density of less than about 1.7 g/cc.

8. A composition according to claim 3 wherein the plastic microballoons are present in an amount of less than about 0.5%.

Description

The invention relates to an explosive composition that is cap-sensitive and is in a cast, solid form. More particularly, the invention relates to a cap-sensitive, cast, solid explosive composition usable as a booster or primer and as a seismic explosive in both normal and small sizes.

BACKGROUND OF THE INVENTION

Most cap-sensitive, cast, solid explosive compositions usable as primers are made from molecular explosives such as PETN, TNT, RDX or combinations thereof such as pentolite and composition B.
These molecular explosives products have relatively high densities (1.60 g/cc or greater) and are formed from liquid melts at high temperatures. The high temperature liquid melts are poured into containers and allowed to cast upon cooling to the desired solid form. The melting, pouring and casting steps involve inherent hazards due to the high temperatures involved and the presence of molecular explosives.

Recently, a novel cast, solid explosive composition was invented that allows mixing, pouring and casting of non-explosive ingredients to occur at ambient temperatures. The ingredients simply are admixed at ambient temperature to form a slurry that can be poured into containers and allowed to cure with time into a cap-sensitive, cast, solid form. (See co-pending U.S. Ser. No. 08/201,341.) In fact, when the non-explosive ingredients first are mixed together at ambient temperature, the mixture typically is not cap-sensitive, but upon curing, also at ambient temperature (except for the temperature rise due to heat of hydration and solvation as described below), the mixture casts and increases in sensitivity to become cap-sensitive. The inherent safety advantages of these compositions are obvious. Not only are non-explosive ingredients admixed at ambient rather than elevated temperatures, but also the composition increases in sensitivity only after the mixing step and simply upon being allowed to cure. These recent compositions comprise sodium perchlorate oxidizer salt, a polyhydric alcohol of low volatility such as diethylene glycol, and a small amount of water. The present invention is an improvement to these novel compositions, which hereafter will be referred to as "cast compositions."

Even though the cast compositions remain cap-sensitive and detonable at high densities (1.78 g/cc or higher), as do molecular explosives, the cast compositions tend to require greater run-up distances to reach terminal detonation velocity than molecular explosive-based compositions, which have short run-up distances. (Run-up distance is defined as the distance along the length of a cylindrical explosive charge that is required for the charge to reach its steady state or terminal detonation velocity, as measured from the point of initiation.) Also, these cast compositions have comparably higher critical diameters (unconfined) than do molecular explosives. (Critical diameter is defined as the minimum diameter at which a detonation wave is sustained in an explosive.) Further, as the diameter of the charge decreases, the detonation velocity of the cast compositions may decrease to a level (below about 5,000 m/sec) that is unacceptable. A shorter run-up distance, a smaller critical diameter and a higher terminal detonation velocity are preferred for booster and seismic charges. These characteristics are particularly important for small size (less than one pound) small diameter boosters or primers or minihole seismic explosives.

Another problem with the cast compositions as compared to molecular explosives involves impact sensitivity. The cast compositions can be more sensitive to impact initiation, depending on the impact stimulus, than molecular explosive products, and this difference in impact sensitivity can be a safety concern.

In summary, a need exists for the cast compositions to have shorter run-up distances, smaller critical diameters, higher terminal velocities in smaller diameters, and reduced impact sensitivity. The present invention satisfies these needs.

It has been found in the present invention that by adding a relatively small amount of microballoons and dispersing them throughout the cast composition, not only is the run-up distance decreased to a relatively very short distance (\( \leq 50 \text{ mm} \)), but also the critical diameter is decreased to \( \leq 0.5 \text{ inches} \). In addition, the impact sensitivity (to rifle bullet and air cannon initiation) is significantly reduced when a small amount of microballoons is added. This effect is surprising since normally the addition of microballoons or air voids to an explosive, even a molecular explosive, increases the detonation (and impact) sensitivity of the charge, particularly in charges having small critical diameters.

A possible explanation of this phenomenon in the present invention is that the microballoons act as "energy absorbers" in localized, decoupled regions within the explosive matrix, where the energy created...
by an impact is dissipated or interrupted before significant reaction of the ingredients takes place. The fact that the detonation run-up distance also is decreased seems to indicate that initiation sensitivity and impact sensitivity of these cast compositions occur by different mechanisms.

With respect to initiation sensitivity, once the detonation process has been initiated by a brisant, localized shock energy source (blasting cap), the microballoons facilitate propagation of the detonation wave such that it reaches its terminal velocity more quickly (shorter distance). The microballoons perform this function by serving as hot spots (adiabatically compressible gas pockets). For impact sensitivity, however, the microballoons prevent transition to detonation in the product by dissipating or interrupting the relatively low energy imparted by the impact source. In contrast, molecular explosives-based products tend to have excellent detonation properties (such as minimal run-up distance, small critical diameters and high velocities even in small charge diameters) at higher densities and do not need the presence of hot spots to help propagate the detonation wave.

Another property of the present cast composition is that the curing or casting time generally is reduced when plastic or glass microballoons are employed. This is advantageous since the overall manufacturing time can be reduced.

All of these described benefits combine to make the cast compositions useful for small booster (less than one pound) applications or minihole seismic explosives (one-third pound) applications, in which the products have short charge lengths and small diameters.

SUMMARY OF THE INVENTION

In summary, the present invention relates to the addition of microballoons to cast compositions to obtain the surprising and important advantages described above.

DETAILED DESCRIPTION OF THE INVENTION

The compositions of the present invention preferably comprise sodium perchlorate in an amount of from about 50% to about 80% by weight of the composition, diethylene glycol in an amount of from about 10% to about 40%, water from about 0% to about 10% and microballoons from about 0.01% to about 4% depending on the type of microballoon. The diethylene glycol may contain minor amounts of other homologous glycols.

The sodium perchlorate is added in dry, particulate or crystal form, although a minor amount also may be dissolved in the diethylene glycol and/or water. Minor amounts may be added of other inorganic oxidizer salts selected from the group consisting of ammonium, alkali and alkaline earth metal nitrates, chlorates and perchlorates.

Preferably, a thickening agent is added to the composition to influence its rheology and casting manner and time. A preferred thickener is Xanthan gum, although the thickening agent may be selected from the group consisting of galactomannan gums, biopolymer gums, guar gum of reduced molecular weight, polyacrylamide and analogous synthetic thickeners, flours and starches. Thickening agents generally are used in amounts ranging from about 0.02% to about 0.2%, but flours and starches may be employed in greater amounts, in which case they also function as fuels. Mixtures of thickening agents can be used.

The microballoons preferably are plastic microspheres having a nonpolar surface and comprising homo-, co- or terpolymers of vinyl monomers. A preferred composition of the plastic microspheres is a thermoplastic copolymer of acrylonitrile and vinylidene chloride. Additionally, the microballoons may be
made from siliceous (silicate-based), ceramic (alumino-silicate) glass such as soda-lime-borosilicate glass, polystyrene, perlite or mineral perlite material. Further, the surface of any of these microballoons may be modified with organic monomers or homo-, co- or terpolymers of vinyl or other monomers, or with polymers of inorganic monomers. Microballoons preferably are employed in an amount of from about 0.05% to about 1.6% by weight, and plastic microballoons preferably are employed in an amount of less than about 0.5%. Preferably, the density of the explosive composition containing microballoons is less than about 1.7 g/cc.

In the optimum preparation, the sodium perchlorate particles or crystals ("solid portion") are mixed with a solution of water (if used) and diethylene glycol ("liquid portion"), and a slurry of microballoons in diethylene glycol and water (if used) and casting agent (if used) ("second liquid portion"). The thickening agent, if used, preferably is pre-hydrated in the liquid portion prior to adding the other portions. Although the preferred method of formulation is to add the liquid portion and the second liquid portion separately to the solid portion, these liquid portions can be combined and then added to the solid portion. Following addition of the portions, simple mixing occurs in a manner sufficient to form a uniform slurry, which then can be poured into a desired container(s) for curing.

The curing mechanism is not fully understood, but the following is a possible explanation. During mixing, a small portion of sodium perchlorate will dissolve in the liquid portion because of the relatively high solubility of sodium perchlorate in water, and its lower but significant solubility in diethylene glycol; however, complete dissolution does not occur. Rather a slurry of solid sodium perchlorate in the liquid portion results, and this suspension may be stabilized by thickening agents if present. As the liquid portion absorbs into the sodium perchlorate particles or crystals, the mixture immediately begins to thicken further and generate heat. The water, diethylene glycol and anhydrous sodium perchlorate molecules form a sodium perchlorate monohydrate (which is a known hydrate) and a sodium perchlorate diethylene glycol solvate. (This solvate has been observed in X-ray crystallography single crystal examination.) Upon further penetration or absorption of the water and diethylene glycol molecules into the sodium perchlorate crystals, increasing amounts of hydrate and solvate are formed and the temperature of the mixture rises due to the heats of hydration and solvation generated in these processes.

The rate and degree of temperature rise depends on several factors, such as the size and configuration of the sample, how well the sample is insulated to prevent heat loss to the environment, and how fast the liquid is absorbed into the crystals. A typical temperature rise of a semi-insulated sample that cures in 40 to 70 minutes can be about 40°C. Thus the curing process can be monitored by observing the temperature rise, the time required to reach the maximum temperature rise and the time required for the mixture to cast (for the surface of the sample to become firm).

The present invention can be better understood by reference to the examples shown in Tables 1-6.

Tables 1-5 contain comparative examples between cast compositions containing microballoons and cast compositions without microballoons. Tables 1-3 contain a comparison of detonation results; Table 4 contains a comparison of casting times, i.e., the times following admixture of ingredients required to cause the compositions to cast (when the surfaces of the compositions become firm) and Table 5 contains a comparison of impact sensitivities. Table 6 contains detonation results representative of smaller-sized cast compositions containing microballoons. In these tables the following key applies:

NaP=sodium perchlorate
NHCN=Norsk Hydro calcium nitrate
Table 1 illustrates the difference in run-up distances between cast compositions containing plastic microballoons and those that do not. The compositions contained Norsk Hydro calcium nitrate which acts as a casting agent. These differences in run-up distances are best seen by comparing the detonation velocities in the 50-100 mm distance segment (distance along the length of the initiated charge originating at the cap end). As can be seen, the presence of plastic microballoons significantly reduced the distance required before terminal detonation velocity was reached. Without plastic microballoons (columns 1 and 4), the terminal velocity was not reached until the 150-200 mm increment, whereas when plastic microballoons were present, the terminal velocity was reached in the 100-150 mm increment for the 50 mm diameter samples and the 50-100 mm increment for the 75 mm samples. In addition, the velocity in the 50-100 mm increment also was higher in the 50 mm diameter charges when plastic microballoons were present. Table 2 shows that the presence of plastic or glass microballoons improved the terminal velocity of cast compositions in charge diameters of 38 mm and smaller and also lowered the critical diameter.

Table 3 contains additional comparative data for cast compositions. Examination of the data again illustrates the effect on run-up distance when microballoons are present. When microballoons are present, run-up is essentially complete in the 50-100 mm segment, whereas when microballoons are not present, run-up is not complete until the 100-150 mm segment of the charge or beyond. Table 3 further shows that at every diameter tested below 38 mm the presence of microballoons improved the terminal detonation velocity of the charge. Also, Table 3 again shows the effect of microballoons in reducing the critical diameter of the cast compositions.

Table 4 illustrates the advantage of including plastic or glass microballoons on the casting properties of the cast compositions. A comparison of the results shown in the table indicates that the presence of plastic microballoons dramatically increased the casting rate of the product, as evidenced by shorter cast times, higher temperature rise of the product during casting and a shorter time required to reach the maximum temperature. Glass microballoons were also effective in increasing the casting rate.

Table 5 is a comparison of impact sensitivity between a cast composition that contained plastic or glass microballoons and one that did not. The results show a reduction in sensitivity to impact when plastic microballoons were included in Example 2. As can be seen by the data in the table, the drop weight impact sensitivity was slightly reduced (an increase in H.sub.50 from 17.40 cm to 18.49 cm) (H.sub.50 means the height in centimeters where there is a 50 percent probability of a reaction when a 2.0 kilogram weight is dropped on approximately 20 milligrams of sample), and the bullet impact (with a 0.22 long rifle bullet) and air cannon impact sensitivity were dramatically reduced when plastic microballoons were added. (The air cannon impact test involved an apparatus which used compressed air to accelerate a charge through a barrel and impact it on a concrete surface at a fixed velocity depending on the air pressure.) When glass microballoons were added, the bullet impact sensitivity was also dramatically reduced.

Table 6 contains data representative of cast compositions containing plastic microballoons in configurations suitable for small charge applications, i.e., small boosters or primers and minihole seismic explosives (.ltoreq.one pound). As shown by the data in Table 6, excellent sensitivity to initiation and detonation velocities (approximately 6000 meters/second) were obtained even in charges as small as 38 mm diameter by 89 mm long. In addition, a demonstration of the short run-up distance and explosive energy available in this product is seen by the ability of the cast composition with microballoons in a 38
mm diameter to punch a 9.5 mm steel plate, when the end of the initiating cap was only 19 mm away from the steel witness plate.

Because of the cast, solid nature of the compositions, their relatively high density and sensitivity, and other detonation parameters, they are particularly useful as a booster or primer or as a seismic explosive. In addition, the improved properties due to the presence of microballoons make these compositions ideal for use in small sizes. The cast compositions are reliably cap-sensitive.

While the present invention has been described with reference to certain illustrative examples and preferred embodiments, various modifications will be apparent to those skilled in the art and any such modifications are intended to be within the scope of the invention as set forth in the appended claims.

### TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mm Diameter</td>
<td>50 mm Diameter</td>
<td>75 mm Diameter</td>
<td>50 mm Diameter</td>
<td>75 mm Diameter</td>
<td>50 mm Diameter</td>
<td>75 mm Diameter</td>
</tr>
<tr>
<td>NaP</td>
<td>67.90</td>
<td>67.75</td>
<td>67.70</td>
<td>67.90</td>
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<tr>
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<td>24.47</td>
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<td>H₂O</td>
<td>3.78</td>
<td>3.77</td>
<td>3.77</td>
<td>3.78</td>
<td>3.77</td>
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<td>0.03</td>
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<td>--</td>
<td>0.22</td>
<td>0.29</td>
<td>--</td>
<td>0.22</td>
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</tr>
<tr>
<td>Microballoons</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Density (g/cc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Casting</td>
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<tr>
<td>After Casting</td>
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<td>1.59</td>
<td>1.52</td>
<td>1.78</td>
<td>1.59</td>
<td>1.52</td>
</tr>
<tr>
<td>Results at 20° C. D, #8 (km/sec)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>50-100 mm</td>
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<td>5.7</td>
<td>5.8</td>
<td>4.4</td>
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<td>100-150 mm</td>
<td>5.0</td>
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<td>6.2</td>
<td>6.2</td>
<td>6.0</td>
<td>5.8</td>
</tr>
<tr>
<td>150-200 mm</td>
<td>6.3</td>
<td>6.2</td>
<td>5.9</td>
<td>6.8</td>
<td>6.1</td>
<td>6.3</td>
</tr>
<tr>
<td>200-250 mm</td>
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<td>6.1</td>
<td>7.2</td>
<td>6.3</td>
<td>6.0</td>
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<tr>
<td>250-300 mm</td>
<td>6.1</td>
<td>6.1</td>
<td>5.9</td>
<td>7.0</td>
<td>6.2</td>
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### TABLE 2

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<td>0.04</td>
<td>0.04</td>
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<tr>
<td>Plastic</td>
<td>--</td>
<td>0.22</td>
<td>--</td>
<td>0.22</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Oxygen Balance</td>
<td>-0.01</td>
<td>--</td>
<td>+0.02</td>
<td>-0.37</td>
<td>-0.51</td>
<td></td>
</tr>
<tr>
<td>(%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Density (g/cc)</td>
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<td>Cap</td>
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<td>7.5 gr/4 gr</td>
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<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>d.sub.c, Det/Fail (mm)</td>
<td>19/12</td>
<td>12/--</td>
<td>19/12</td>
<td>12/--</td>
<td>12/--</td>
<td></td>
</tr>
<tr>
<td>D, #8 (km/sec)</td>
<td>6.4</td>
<td>6.2</td>
<td>--</td>
<td>6.3</td>
<td>6.3</td>
<td></td>
</tr>
<tr>
<td>75 mm</td>
<td>6.1</td>
<td>6.1</td>
<td>--</td>
<td>6.3</td>
<td>6.3</td>
<td></td>
</tr>
<tr>
<td>63 mm</td>
<td>6.2</td>
<td>6.1</td>
<td>6.3</td>
<td>6.3</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>50 mm</td>
<td>4.9</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>38 mm</td>
<td>4.3</td>
<td>5.6</td>
<td>5.6</td>
<td>5.9</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>32 mm</td>
<td>4.0</td>
<td>5.3</td>
<td>5.2</td>
<td>5.5</td>
<td>5.4</td>
<td></td>
</tr>
<tr>
<td>22 mm</td>
<td>3.1</td>
<td>4.9</td>
<td>4.4</td>
<td>5.2</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>19 mm</td>
<td>Fail</td>
<td>Det</td>
<td>Fail</td>
<td>4.4</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 3

<table>
<thead>
<tr>
<th>50 mm Diameter</th>
</tr>
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<tbody>
<tr>
<td>38 mm</td>
</tr>
<tr>
<td>1  2</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>NaP</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
71.30
71.14
71.30
71.14
71.30
71.14
71.30
71.14

DEG      24.67
         24.62
         24.62
         24.67
         24.62
         24.67
         24.62
         24.67

H\textsubscript{2}O
3.99
3.98
3.98
3.99
3.98
3.99
3.98
3.99

Xanthan Gum
0.04
0.04
0.04
0.04
0.04
0.04
0.04
0.04

Plastic   -- 0.22
<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Posidet (km/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-100</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Fail</td>
</tr>
<tr>
<td>75-125</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Fail</td>
</tr>
<tr>
<td>100-150</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>4.3</td>
</tr>
</tbody>
</table>

Results at 20° C.

Microballoons
Glass Microballoons

D, Posidet (km/sec)
5.1
  Fail
4.2

125-175 mm
6.1
  6.4
  6.2
  5.8
  6.1
  5.5
  6.0
  5.0
  5.5
  4.3
  5.2
  Fail
4.5

150-200 mm
6.4
  6.2
  6.3
  6.1
  6.1
  5.6
  5.9
  5.3
  5.6
  4.5
  5.2
  Fail
4.3

175-225 mm
6.5
  6.3
  6.4
  6.1
  6.2
  5.8
  5.9
  5.2
  5.6
  4.4
  5.3
  Fail
4.4

Average of 3 points
6.3
  -- -- 6.0
  -- 5.6
  -- 5.2
(125–225 mm)
Average of 5 points
-- 6.3
   6.2
   -- 6.2
   -- 5.9
   -- 5.5
   -- 5.2
   -- 4.4

(75–225 mm)

TABLE 4

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>NaP</td>
<td>71.30</td>
<td>70.98</td>
<td>71.30</td>
<td>70.98</td>
<td>70.34</td>
</tr>
<tr>
<td>DEG</td>
<td>24.67</td>
<td>24.56</td>
<td>25.33</td>
<td>25.21</td>
<td>24.11</td>
</tr>
<tr>
<td>H.sub.2 O</td>
<td>3.99</td>
<td>3.97</td>
<td>3.33</td>
<td>3.32</td>
<td>3.91</td>
</tr>
<tr>
<td>Xantham Gum</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Plastic Microballoons</td>
<td>--</td>
<td>0.45</td>
<td>--</td>
<td>0.45</td>
<td>--</td>
</tr>
<tr>
<td>Glass Microballoons</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1.60</td>
</tr>
<tr>
<td>Density (g/cc)</td>
<td>1.75</td>
<td>1.38</td>
<td>1.67</td>
<td>1.42</td>
<td>1.54</td>
</tr>
</tbody>
</table>

Results

Cast Time (min)*
25.5 5.0 55.5 9.5 19.0

Temperature Rise
22.1 40.1 10.9 40.6 33.9

.DELTA.T(.degree.C.)

Time to Max Temp.
1.23 0.33 >2.00 0.57 0.66

Rise (Hours)

*Surface of sample is firm.

TABLE 5

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>NaP</td>
<td>71.30</td>
<td>71.18</td>
<td>70.16</td>
</tr>
<tr>
<td>DEG</td>
<td>24.67</td>
<td>24.62</td>
<td>24.62</td>
</tr>
<tr>
<td>H.sub.2 O</td>
<td>3.99</td>
<td>3.98</td>
<td>3.98</td>
</tr>
</tbody>
</table>
Xanthan Gum       0.04      0.04   0.04
Plastic microballoons --      0.18   --
Glass microballoons  --       --    1.20

Results at 20 degree. C.:
Drop Weight Test (cm)
H.sub.50          17.40     18.49  12.83
H.sub.min         15.24     15.24  10.16
Friction Test
Minimum Loan (kg).sup.1
16.0      16.0   8.0
Trials Required for Positive Test
4        5     1

Bullet Impact Test.sup.2
.22 Long Rifle (135 Joules).sup.3
Det            12        4      5
Reaction        20        0      1
Fail            8         56     34
Trials          40       60     40
.22/250 (1765 Joules).sup.3
Det            4         6     --
Reaction       6         0     --
Fail           1         0     --
Trials         10       60     40
Air Cannon Test (200-280 psi).sup.2
Det           34        2      12
Reaction       0        2      0
Fail           87       56     28
Trials         121      60     40

.sup.1 Minimum load in kilograms required for at least one positive result in six trials.
.sup.2 910 grams, 75 mm diameter size charges.
.sup.3 Impact energy.

TABLE 6

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>NaP</td>
<td>71.12</td>
<td>71.12</td>
<td>71.12</td>
</tr>
<tr>
<td>DEG</td>
<td>24.62</td>
<td>24.62</td>
<td>24.62</td>
</tr>
<tr>
<td>H.sub.2 O</td>
<td>3.98</td>
<td>3.98</td>
<td>3.98</td>
</tr>
<tr>
<td>Xanthan Gum</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Plastic Microballoons</td>
<td>0.24</td>
<td>0.24</td>
<td>0.24</td>
</tr>
<tr>
<td>Density (g/cc)</td>
<td>1.60</td>
<td>1.65</td>
<td>1.59</td>
</tr>
</tbody>
</table>

Charge Size
Weight (g).sup.1
<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>38</th>
<th>38</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>89</td>
<td>178</td>
<td>160</td>
</tr>
</tbody>
</table>

**Results at 20.0°C.**

<table>
<thead>
<tr>
<th>MB (Det/Fail)</th>
<th>#0.5/--</th>
<th>#0.5/--</th>
<th>#1/#0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>D, Posidet (km/sec)</td>
<td>6.0</td>
<td>6.2</td>
<td>6.4</td>
</tr>
</tbody>
</table>

**Plate Punch Test**

<table>
<thead>
<tr>
<th>Cap Up (size hole, mm)</th>
<th>25.4 × 9.5</th>
<th>25.4 × 25.4</th>
<th>25.4 × 25.4</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cap Down (size hole, mm)</th>
<th>31.8 × 6.4</th>
<th>31.8 × 25.4</th>
<th>31.8 × 31.8</th>
</tr>
</thead>
</table>

**Distance End of Cap From Plate (mm)**

| 19 | 108 | 90 |

---

**sup.1** Average of twenty charges.

**sup.2** 9.5 mm steel plate.

**sup.3** Initiating cap pointed away from plate (end of cap 70 mm from plate).

**sup.4** Initiating cap pointed toward plate.

****
### Author | Topic: sodium acetate
---|---
**dlw daw**<br>Frequent Poster | posted September 14, 1999 05:07 PM

what can this be used for. is it an explosive itslef?

Dennis

-------------
If you cant make a mistake you cant make anything

- Marva Coolins

**nbk2000**<br>Frequent Poster | posted September 14, 1999 06:56 PM

Sodium acetate is definitely non-explosive. That's what you get when you mix vinegar and baking soda.

-------------
"The knowledge that they fear is a weapon to be used against them."

Does anybody know where to find/easily make potassium chlorate?
Thanks
-pois

I think if you got potassium chloride (no idea where to get this), then mixed it with sodium chlorate (found as a weedkiller, quite cheap too) then a competition reaction would result, leaving potassium chlorate and sodium chloride (you might have to heat or stir this to encourage the reaction - but I don't really know). You could then get either water at a temperature where only one of the two would dissolve, then separate - or use a solvent which only one will dissolve in.
I've not tried this but I assume it would work, maybe someone else could add whatever else might be needed (ie temp of the water, a good solvent).

Does anybody know how sodium chlorate works in things like pyro? I have 4 kg of the stuff and would like to know if I could replace the KNO3 in a sugar smoke mix with the NaClO3?

-------------

ezekiel@cannabismail.com
"Hitler bad, explosions good"

Here is the end result of a large colaboration of people who wanted to better document the electrolysis of chlorates and perchlorates; http://users.foxvalley.net/~chemengr/kclo4a.html
You can extract sodium chlorate from "Solidox" pellets. They're used for oxygen/propane welding sets. A can of pellets contains about 3/4 lb of chlorate after you boil them down, filter, and evaporate to dryness. They cost about $10 last I saw.

-----------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

NBK2000-
That file on potassium perchlorate with a battery charger is impressive! Poison give NBK2000 your email address and get him to send it to you or i'll do it if NBK2000 doesn't mind 😊 Incidentally potassium dichromate is used as a woodstain or something and can be bought from timber merchants etc.

Cheers Jolly Roger i found that file a while back but i thought potassium dichromate was some wierd stuff not a bulding product and i know some joiners, so here goes.

Bandit

Dichromate is also in an automotive cleaning compound. It comes in a gallon size can with a dipping basket. I think it's for degreasing or something like that. It's mostly solvent but there's at least a couple ounces of dichromate in there I'm sure. I think it was Pep-Boys.

-----------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
Chlorate and Perchlorate

The Authors and Experimenters

All the information on this page is the culmination of a lot of hard work and endless discussion done by John Edelmann, Wouter Visser, Rich Weaver, Tony Wilkinson, Greg Gallacci, and me. I also spent a lot of time digging for and reading what little information there is on the process.

If you have reached this page from a web crawler that does not support frames, please follow the link below. Thank you.

Frames Version
Cell Designs

These are the five basic cell designs that I have experimented with:

- **Coaxial**: Instead of the coaxial arrangement shown here, I actually used the electrode setup shown on the persulfate page. To make one, simply drill a hole near the end of a stainless steel pipe and then maintain the fluid level at the center of the hole. This allows the electrolyte to circulate. This design may work well with platinum or lead.
dioxide anodes, but carbons will not hold up.

**Side-By-Side**

The side-by-side is by far the easiest design to put together, but carbon anodes tend to deteriorate at the top, the bottoms then fall to the bottom of the cell.

**Side-By-Side Offset**

The side-by-side offset is easy enough to put together, but special care must be taken to seal the cathode connection to the wire lead with either hot melt glue, shrink wrap, or liquid electrician's tape. When the cells run at high current and high temperature, the hot melt glue can actually melt in the cell. When that happens, the copper can get boogered up or eaten up pretty quick.

**Over-Under**

The advantage of the over-under and the side-by-side offset is that the carbon anodes erode from the bottom upwards. Another good point is that the $\text{H}_2$ formed at the cathode bubbles upwards, stirring the cell as it does. Just keep it up off the bottom a little bit so that it's above the crystals that form.

**Inverted Trough**

The inverted trough setup is by far the worst. It eats carbons like fat women eat chocolate.
Potassium Persulfate

Potassium peroxydisulfate, $K_2S_2O_8$, is a very strong oxidizer. Sodium persulfate, $Na_2S_2O_8$, is used to kill the little microbeasties in swimming pools, and ammonium persulfate, $(NH_3)_2S_2O_8$, is mixed with 98% sulfuric acid to make a commercial glassware cleaner, Nochromix®, used in laboratories in place of chromic acid baths. Pretty nasty stuff.

Electrode Assembly

This is my electrode and cell assembly that I used for making potassium persulfate. The anode was made by inserting a 20 gauge Pt wire in a 6 mm diameter glass tube 8 cm long and sealing one end. The anode wire extended 4.4 cm through the sealed end. The cathode was made by coiling 7 cm of 24 gauge Pt wire around the bottom 4 cm of the anode tube. The different gauges were employed only because of availability, and the different lengths were used to maintain equal surface areas on the electrodes. The glass tube was etched at 4 cm from the sealed end to act as a gauge for electrolyte level. The electrode tube was then inserted into a one hole rubber stopper with an 8 mm diameter hole and held in place by a rubber wedge. The oversize hole allowed for the escape of gases generated within the cell. The electrode assembly was then fitted to a 2 x 20 cm test tube. The anode surface area is 1.13 cm$^2$ so that a 1.00 amp/cm$^2$ current density can be easily obtained from standard 2 amp bench top power supplies.
Synthesis

Potassium persulfate is a very strong oxidizer. For example, potassium permanganate will not oxidize chlorate to perchlorate in aqueous solution, but persulfate will. My interest in persulfate is this ability to convert chlorate to perchlorate, a step that is hard on anodes if done by electrolysis. The anode reaction is:

\[ 2 \text{HSO}_4^-(\text{-}) \rightarrow S_2\text{O}_8^{2-} + 2 \text{H}^+ + 2 \text{e}^- \quad (E^\circ = -2.05 \text{ volts}) \]

The cathode reaction is:

\[ 2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2 \]

The oxidation of water to \( \text{O}_2 \) has a higher oxidation potential and should occur in preference to the desired oxidation of \( \text{HSO}_4^- \):

\[ 2 \text{H}_2\text{O} \rightarrow \text{O}_2 + 4 \text{H}^+ + 4\text{e}^- \quad (E^\circ = -1.23 \text{ volts}) \]

In order to maximize the yield of persulfate and to minimize \( \text{O}_2 \) formation, several conditions of the electrolysis are adjusted. First note that the value of \( E^\circ \) is obtained from thermodynamic measurements and is actually much higher. There is a kinetically slow step in the oxidation of water that requires an overpotential (or overvoltage). This overpotential is dependent on many factors, including the anode material and the history of the anode. A general guideline of
overpotentials for $O_2$ formation in 1 M KOH at 1.0 amp/cm² follows:

<table>
<thead>
<tr>
<th>Anode</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni</td>
<td>0.87</td>
</tr>
<tr>
<td>Cu</td>
<td>0.84</td>
</tr>
<tr>
<td>Ag</td>
<td>1.14</td>
</tr>
<tr>
<td>Pt</td>
<td>1.38</td>
</tr>
</tbody>
</table>

Since overpotentials increase with higher current densities, a relatively high current is used. The reaction rate of the slow step in the oxidation of water will decrease at lower temperatures, thereby raising the overpotential. For this and another reason to follow, the reaction vessel is kept in an ice bath. Finally, high concentrations of $HSO_4^-$ and low concentrations of water will maximize $S_2O_8^{2-}$ production.

The lower temperatures also decrease the already low solubility of potassium persulfate so that the product quickly precipitates out of solution. This, coupled with the electrode design, reduces the risk of the product diffusing to the cathode only to be reduced to the starting material.

A saturated solution of KH$SO_4$ is prepared by adding $K_2SO_4$ to a solution of 60 mL conc $H_2SO_4$ in 150 mL of water until no more will dissolve. This mixture is then cooled in an ice bath to 0°C. The supernatant solution is added to the cell. The current is adjusted to achieve the desired 1.00 amps/cm².

![Diagram](http://users.foxvalley.net/~chemengr/persulf.html)
The persulfate ion is unstable at high temperatures (20°C), turning into acid, so the product should be filtered and washed with ethanol as soon as the reaction is completed. One final example of the oxidation strength of persulfate. A typical catalyst employed in conjunction with persulfate is silver(I) ion, which is oxidized to Ag\(^{3+}\)......a very unusual oxidation state indeed......before reacting and returning to Ag\(^{+}\).

Note: The catalyst is employed because persulfate is a very slow oxidizer.
Electrodes & Carbon Rod Treatment

Electrodes

Cathodes

Stainless Steel:
The best choice. (I use hose clamps.)

Mild Steel:
Coffee cans rust and make more work, but if it's all you have then use it. Chromate ions in the electrolyte will protect mild steel from corrosion.

Anodes

Platinum:
Pt is by far the material of choice, but not readily available or within the average budget.

Lead Dioxide:
PbO₂ is supposed to be pretty good, if you can get it. They're not too easy to make, either, but we're working on it. Chromate ions and HCl are not compatible with lead dioxide.

Carbon:
Gouging rods are the material of choice because of cost and availability, but they are messy. Treating the carbon rods with linseed oil is well worth the time and effort, but not essential.

Glassy Carbon:
I have heard that certain graphite compositions will actually convert into CO₂, which would save a lot of filtering over the gouging rods.

Carbon Rod Treatment

Gouging rods are sold with a copper coating that must be removed. It can be peeled off like the skin of a banana or it can be stripped off electrolytically. To strip it off, stick it in a KCl solution as an anode, the positive (+) terminal, and use a coat hanger as the cathode (-). The peeling is definitely faster, but the electrolysis gives some copper chloride and oxychloride compounds to play with. Whichever method you use, be sure to get all of the copper off.

After stripping the copper off the gouging rods, treating them with linseed oil will greatly add to their life. This is a quick synopsis of the process.
Fill a pipe or plastic tubing with enough linseed oil to cover an inch or so above the rod and start pumping. The vacuum will draw air out of the rod and oil will fill the voids that are left. Let the rod air dry for a week or two at room temperature and you're all set. If you have the proper equipment, I'm told that alternating between vacuum and pressure is the absolute best way to impregnate the rods.

I use a pump made for bleeding brakes. It's all steel and brass construction, made in the US for $35. A cheaper, plastic version can be had for $25, and really good versions for mechanics cost over $100. I know of others that used the compressor from an old frigidaire.

If the overflow basin presents too much of a hassle, it can be bypassed, but be careful not to draw the linseed oil up into the pump. An extra foot or two of tubing can be added to help protect against it.
The Solution

Start with a saturated solution of sodium or potassium chloride. To do this, dissolve as much as you can in your solution. You'll know it's saturated if there are crystals at the bottom of the container.

You can also add a little, hydrochloric acid, HCl, and enough potassium permanganate, KMnO₄, to make the solution ever so slightly pink. Note that any pH adjustments that are made after the chlorate has begun to form should be done slowly with dilute HCl, or the chlorate will decompose back to hypochlorite.

The purpose of the KMnO₄ is to replace potassium dichromate, which is typically used in industrial cells to keep the product from being reduced back to the starting material at the cathode and to buffer the pH, but the permanganate is definitely easier to obtain and safer to use. The permangante might help in two ways; it's a strong oxidizer and possibly helps in the oxidation reaction, and it might form a complex around the cathode, thereby preventing reduction of the products.

If you look in the plumbing department you should be able to find potassium permanganate, possibly under the brand name *Pot Perm* from the same company as *Iron Out*. Sears carries KMnO₄. The KMnO₄ is not essential. In fact, we think it might even make the KClO₄ more sensitive, especially if you use too much. For a quart jar I use two or three tiny little crystals, so use tweezers, not teaspoons.

pH

The hypochlorous acid and hypochlorite shown in reaction (5) are decomposed in very acidic (low pH) solutions and the effect on the cell is that it becomes a chlorine gas factory. At the other end of the pH scale in strongly alkaline solutions, the hypochlorous acid concentration approaches zero and all the active chlorine is in the form of hypochlorite ions, ClO⁻, and the cell goes according to rxn (7), which is less efficient. The ideal pH for chlorate production is between 6.5 and 6.8.

Temperature

As with the pH, there is a range of temperatures that works, and finding the optimum temperature for individual cell conditions is necessary. The best temperatures for graphite anodes is about 105° F (40° C). The trade off for conserving the anode is that the reaction rate is cut way down from the overall optimal temperature of 140° F (60° C). When the temperature
is cut down by $18^\circ$ F ($10^\circ$ C) the reaction *time* is doubled (the reaction *rate* is cut in half). So you can see that by dropping from 140 to 105$^\circ$ F that the reaction time is quadrupled (four hours instead of one).
Procedure

Stick a carbon anode (+) and a stainless steel cathode (-) into the solution and run a cell at 6.4 volts (or more) for at least the amount of time specified in the run time tables for starting material used and the desired product.

As product is formed, the electrolyte will be depleted and cell resistance will go up, so add a wee bit of dilute HCl (muriatic acid). Also make sure that you have a low current density on the anode, to do that simply have as much of the rod in solution as possible. You will then need to adjust the size of the cathode.

With a variable potential, 2 amp power supply I use a half gallon apple sauce jar as the reaction vessel. The cathode is about $\frac{1}{2}$ inch square, and the anode is inserted until the voltage levels out at about 7 volts. Making the anode bigger than the cathode will save wear on the anode. I put my stainless steel cathode high enough off the bottom of the cell so that it's above any crystals that form. The cathode is just a piece of SS radiator hose clamp. The connection to the wire is critical. Keep the copper wire sealed from the solution with hot melt glue or liquid electricians tape. Regular, mild steel will rust and get all boogered up and so will your cell.

To keep the mist and crystals in the jar, I put a hole in the lid that is more than big enough for the two electrodes. I then poke the carbon rod and wire for the cathode through a sandwich baggie, place the electrodes in the solution, and then put the lid over the baggie and tighten it.

With a 12 volt, 10 amp power supply I use two half gallon jars connected in series. A series connection is made by connecting the positive (+) lead to the anode of cell #1, connecting the cathode of cell #1 to the anode of cell #2, and then connecting the negative (-) lead to the cathode of cell #2, as shown below.
The run times for perchlorate cells, with either KCl or NaCl as the starting material, at various currents are given in the tables below. The run times for one gram of NaCl will be longer than those for one gram of KCl because there are more moles of NaCl per gram. I tried to make the tables as broad as possible, including units of mass in grams, ounces and pounds and currents ranging from 1 to 20 amps.

Note that these run times assume that your cell is converting the chloride to perchlorate entirely by electricity. Under ideal conditions, pH of about 6.6, less than a third of the chloride to chlorate conversion is by electricity at the anode.

To use the chart, simply multiply the amount of salt you started with by the number of hours:minutes that corresponds with the current your power supply is delivering. For example, suppose you start with three pounds of KCl and apply 10 amps, the chart says 130:27/lb KCl:

\[
\begin{align*}
3 \cdot (130:00) &= 390:00 \\
3 \cdot (0:27) &= 81 \text{ minutes} = 1:21 \\
390:00 + 1:21 &= 391:21, \text{ which is about 16 days.}
\end{align*}
\]

Calculations

\[
\begin{align*}
n &= 8 \text{ mol e}^-/1 \text{ mol Cl}^- \\
F &= 96,485.309 \text{ C/mol e}^- \text{ (Faraday constant)} \\
i &= \text{ current in amps (1 amp = 1 C/s)}
\end{align*}
\]

1 pound = 453.59 grams
1 hour = 3600 seconds

\[
\begin{align*}
M_{\text{KCl}} &= 74.5513 \text{ g/mol KCl (molar mass of KCl)} \\
M_{\text{NaCl}} &= 58.44277 \text{ g/mol NaCl (molar mass of NaCl)}
\end{align*}
\]

\[
\begin{align*}
t &= n \cdot F / (3600 \cdot i \cdot M) \\
t_1 &= (8 \text{ mol e}^-/1 \text{ mol Cl}^-) \cdot (96,485.309 \text{ C/mol e}^-) / [3600 \cdot (1 \text{ amp}) \cdot (74.5513 \text{ g/mol})] \\
t_1 &= 2.876 \text{ hours} = 2:53 (\text{hours:minutes})
\end{align*}
\]

Table Index

Table #1: The run times for potassium chloride to potassium perchlorate cells @ ~6.4 volts.
Table #2: The run times for sodium chloride to sodium perchlorate cells @ ~6.4 volts.
### Text Files

In addition to the HTML run time tables, I generated a duplicate set of tables in text format. You can save the files to your hard drive with the `.csv` extension (e.g. `table1.csv`) and then open the file in Excel. I did this so that if you calculate a current efficiency for a particular set up, you can adjust the tables accordingly.

For example, suppose you have your own custom set up, with a certain volume, anode, cathode, current density, pH, temperature, etc., and you see that it took your cell 1:15 and the run time charts gave 1:00, you know that you should multiply the run time chart by 1.25 for the correct times. It's a piece of cake in Excel. Also note that the text format has the times in hours, so 2.5 hours = 2:30 hours:minutes.

### Text Format Table Index

<table>
<thead>
<tr>
<th>Table</th>
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<td>The run times for sodium chloride to sodium perchlorate cells @ ~6.4 volts.</td>
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<td>The run times for potassium chloride to potassium chlorate cells @ ~3.3 volts.</td>
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<td>The run times for sodium chloride to sodium chlorate cells @ ~3.3 volts.</td>
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<tr>
<td><strong>#5</strong></td>
<td>The run times for potassium chlorate to potassium perchlorate @ ~6.4 volts per mass of KCl starting material.</td>
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<td>The run times for sodium chlorate to sodium perchlorate @ ~6.4 volts per mass of NaCl starting material.</td>
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Table #8: The run times for sodium chlorate to sodium perchlorate @ ~6.4 volts per mass of NaClO$_3$ starting material.
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### Table #6

**NaClO$_3$ $\rightarrow$ NaClO$_4$ Run Time (in hours:minutes) @ $\sim$6.4 volts**

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<td>Per Gram of KCl</td>
<td>Per Ounce of KCl</td>
<td>Per Pound of KCl</td>
</tr>
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<tr>
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</tbody>
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### Table #4

**NaCl —> NaClO₃ Run Time (in hours:minutes) @ ~3.3 volts**

<table>
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<th>Per Ounce of NaCl</th>
<th>Per Pound of NaCl</th>
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Table #3

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<th>Per Pound of KCl</th>
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<tr>
<td>20</td>
<td>0:06</td>
<td>3:03</td>
<td>48:55</td>
</tr>
</tbody>
</table>
Reaction Equations

Since there is presently no way to know exactly what the reaction mechanisms are, one must choose a set and hope for the best. I like the Foerster rxn.

There are two simultaneous processes of chlorate production that occur in the electrolysis of aqueous chloride. The first, and most efficient, is the so called Foerster reaction. The first step is the oxidation of chloride at the anode with immediate hydrolysis of the anode product (chlorine) to yield the hypochlorous species, HClO and ClO\(^{-}\). The chloride to chlorate conversion requires about 3.3 volts.

1) Overall Foerster Reaction: \(\text{NaCl} + 3\text{H}_2\text{O} \rightarrow \text{NaClO}_3 + 3\text{H}_2\)

2a) Anode: \(2\text{Cl}^- \rightarrow \text{Cl}_2 + 2e^-\)

2b) Cathode: \(2\text{H}_2\text{O} + 2e^- \rightarrow \text{H}_2 + 2\text{OH}^-\)

3) Bulk Soln: \(\text{Cl}_2 + \text{H}_2\text{O} \rightarrow \text{HOCl} + \text{H}^+ + \text{Cl}^-\)

4) Bulk Soln: \(\text{HOCl} \leftarrow \rightarrow \text{ClO}^- + \text{H}^+\)

5) Bulk Soln: \(2\text{HClO} + \text{ClO}^- + \text{H}_2\text{O} \rightarrow \text{ClO}_3^- + \text{H}_3\text{O}^+ + 2\text{Cl}^-\)

There are also the two side reactions that reduce the current efficiency. Number six is common in aqueous electrolysis and can sometimes be avoided by chosing an anode with a high overpotential for \(\text{O}_2\), a short list of which is given on the persulfate page.

6) Anode: \(2\text{H}_2\text{O} + 2e^- \rightarrow \text{O}_2 + 4\text{H}^+ + 4e^-\)

Reaction number seven is the electrochemical oxidation of hypochlorite at the anode, and certainly not what one would intuitively consider to be a waste of electricity because it does yield the product that we're all after. It is considered a waste because the only electricity required to get the ClO\(_3^-\) is that needed to drive rxn (2).

7) Anode: \(6\text{OCl}^- + 9\text{H}_2\text{O} \rightarrow 2\text{ClO}_3^- + 6\text{H}_3\text{O}^+ + 4\text{Cl}^- + 3/2\text{O}_2\)

8) Overall Reaction: \(2\text{Cl}^- + 18\text{OH}^- \rightarrow 2\text{ClO}_3^- + 9\text{H}_2\text{O} + 3/2\text{O}_2 + 18\text{e}^-\)

The conversion of chlorate to perchlorate requires around 6.4 volts and goes something like rxn (9). Notice that more Cl\(^-\) (starting material) is produced and the whole process starts over again. With that in mind, it probably would make more sense to run the chloride to chlorate conversion at 3.3 volts, then to switch up to 6.4 volts for the chlorate to perchlorate conversion. This would certainly reduce the amount of \(\text{O}_2\) produced in rxn (6).
(9a) Anode: \(2\text{ClO}_3^- \rightarrow \text{ClO}_4^- + \text{Cl}^- + \text{O}_2\)

(9b) Anode: \(4\text{ClO}_3^- \rightarrow 3\text{ClO}_4^- + \text{Cl}^-\)

### Additional Chlorine Chemistry

The table below names the acids of chlorine and their corresponding anions. Some prefer to see the structure of a compound reflected in its formula, so that HClO\(_4\) would be written as HOClO\(_3\). I think that practice leads to confusion, so I write my formulas as formulas and my structures as structures. Just be aware that the H is bonded to an O, not a Cl in the oxoacids.

<table>
<thead>
<tr>
<th>Acid</th>
<th>Anion</th>
<th>Cl Charge</th>
<th>(pK_a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCl, hydrochloric</td>
<td>Cl(^-), chloride</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>HClO, hypochlorous</td>
<td>ClO(^-), hypochlorite</td>
<td>+1</td>
<td>7.53</td>
</tr>
<tr>
<td>HClO(_2), chlorous</td>
<td>ClO(_2)-, chlorite</td>
<td>+3</td>
<td>2.00</td>
</tr>
<tr>
<td>HClO(_3), chloric</td>
<td>ClO(_3)-, chlorate</td>
<td>+5</td>
<td>-1.2</td>
</tr>
<tr>
<td>HClO(_4), perchloric</td>
<td>ClO(_4)-, perchlorate</td>
<td>+7</td>
<td>-10</td>
</tr>
</tbody>
</table>

Notice that the \(pK_a\) for HCl is blank. HCl is almost completely ionized in water, so the rxn quotient, \(Q\), at equilibrium would approach infinity. See the [acid](http://users.foxvalley.net/~chemengr/kclo4f.html) page for more details.

The \(pK_a\) for HClO indicates that it is a weak acid, so then its conjugate base, ClO\(^-\), is a strong base. The \(pK_a\) for HClO\(_4\) indicates a very strong acid with a very weak conjugate base, ClO\(_4\)-. The weak basicity and single negative charge make it unlikely that ClO\(_4\)- will form complexes with cations in aqueous soln.

For the rxns

1. \(\text{Cl}_2(g) \rightarrow \text{Cl}_2(aq)\)
2. \(\text{Cl}_2(aq) \rightarrow \text{H}^+ + \text{Cl}^- + \text{HClO}\)

\[K_1 = 0.062\]
\[K_2 = 4.2 \times 10^{-4}\]

These equilibrium constants indicate a total solubility of Cl\(_2\) of about 0.092 mol/L, a conc of Cl\(_2(aq)\) of 0.062 mol/L, and concentrations of H\(^+\), Cl\(^-\), and HClO to be 0.03 mol/L each. All of this indicates that bubbling chlorine gas through water is not the best way to form HClO.

Looking at the \(pK_a\) of HClO, its dissociation constant is about \(3 \times 10^{-8}\), so whatever HClO is formed will not readily dissociate to H\(^+\), ClO\(^-\)
Now consider the rxn of bubbling chlorine gas through cold, basic soln:

\[
\text{Cl}_2(\text{aq}) + 2\text{OH}^- \rightarrow \text{Cl}^- + \text{ClO}^- + \text{H}_2\text{O}
\]

The equilibrium constant, \( K = 7.5 \times 10^{15} \), is very favorable towards the products. They are also very rapid rxns.

From here the rxn can go one of three ways. If the soln is only slightly basic, acid can be added to form HClO from the ClO\(^-\). If the soln is strongly basic, the disproportionation rxn occurs:

\[
3\text{ClO}^- \rightarrow 2\text{Cl}^- + \text{ClO}_3^-
\]

This disproportionation rxn is thermodynamically favorable, \( K = 1.5 \times 10^{27} \), but the kinetics are highly dependent on temperature. At 70 °F the rxn is so slow that it is not a consideration, but at 170 °F, though, the rxn is fairly rapid and good yields of ClO\(_3^-\) are obtained.

The disproportionation of chlorate to perchlorate (rxn 9 above):

\[
4\text{ClO}_3^- \rightarrow 3\text{ClO}_4^- + \text{Cl}^-
\]

is very thermodynamically favorable, \( K = 10^{29} \), but is very slow, even at boiling. This slow step can be overcome by providing the necessary overpotential within an electrolytic cell.
Acids and Bases

Acids and bases are a big topic. More sulfuric acid is produced by the chemical industry worldwide than any other chemical, and hydrochloric acid is secreted in our stomachs to aid in digestion. Buffer solutions, which resist changes in pH, are found everywhere, including our bloodstream and ocean water near the surface.

I want to cover a little about pH, and then buffer solutions. There's a variable in chemistry called the equilibrium constant. The equilibrium constant, $K$, for a reaction is the concentration of the products over the concentration of the reactants, each one raised to the power of the respective coefficient from the balanced chemical equation. The square brackets denote concentration in moles per liter.

$$aA + bB \rightleftharpoons cC + dD$$

$$K = \frac{[C]^c[D]^d}{[A]^a[B]^b}$$

The equilibrium constant for the dissociation of a weak acid in aqueous solution is denoted by adding the subscript $a$, $K_a$, and that of a base is denoted by the subscript $b$, $K_b$. Later, we will see the use of $pK$, which stands for negative log of $K$.

**pH and pOH**

Just as $pK$ stands for the negative log of $K$, pH stands for the negative log of $H$, where $H$ is the concentration of $H^+$ in aqueous solution. [Note: $H^+$ in aqueous solution is the same as $H_3O^+$, called hydronium.]

$$\text{pH} = -\log [H^+]$$

The pH is an indication of how acidic or basic a solution is. The pH scale runs from 0 to 14, where pH = 0 is strongly acidic, pH = 14 is strongly basic, and pH = 7 is neutral (pure water).

Likewise, $pOH$ is the negative log of the hydroxide ion in aqueous solution.

$$\text{pOH} = -\log [OH^-]$$

The pH can be used to find the $pOH$ by the simple relationship:

$$\text{pH} + \text{pOH} = 14$$

**Example I**

If you have 10,000 gallons (37,854 L) of water with a pH of 8 and you want to lower the pH to 7.2, how much 28% muriatic acid (HCl) from the hardware store do you add?
First find the concentration of the 28% HCl. The 28% is weight per volume (w/v). We'll also find the pH of the HCl as a comparison.

\[(28 \text{ g HCl}/100 \text{ mL})(1 \text{ mol HCl}/36.5 \text{ g})(1000 \text{ mL}/L) = 7.68 \text{ M HCl}\]

\[\text{pH} = -\log [H^+] = -\log (7.68)\]

\[\text{pH} = -0.89\]

The negative value of the pH of the 28% (7.68 M) HCl solution is off of the pH scale, which simply means that it is a very strong acid.

Now to find the amount needed for the pool. Find the initial and final concentrations of hydroxide ion, then calculate how much acid is needed to neutralize the hydroxide ions. Note: The subscript i denotes initial and f denotes final conditions.

\[
\text{pOH} = 14 - \text{pH} \\
(pOH)_i = 14 - 8 = 6 \\
(pOH)_f = 14 - 7.2 = 6.8
\]

Convert the pOH values into molar concentrations.

\[
[\text{OH}^-] = 10^{-\text{pOH}}
\]

\[
[\text{OH}^-]_i = 10^{-6} = 10^{-6} \text{ M}
\]

\[
[\text{OH}^-]_f = 10^{-6.8} = 1.58 \times 10^{-7} \text{ M}
\]

Now find the change in hydroxide ion concentration:

\[
d[\text{OH}^-] = [\text{OH}^-]_f - [\text{OH}^-]_i
\]

\[
d[\text{OH}^-] = 1.58 \times 10^{-7} \text{ M} - 10^{-6} \text{ M}
\]

\[
d[\text{OH}^-] = -8.4 \times 10^{-7} \text{ M}
\]
In order to reduce the hydroxide ion concentration by $8.4 \times 10^{-7}$ M, that same amount of hydronium ion (HCl) must be added. M is moles per liter, so we multiply this by the number of liters to find the number of moles of hydroxide.

$$\text{(8.42 x 10}^{-7}\text{ mol/L})(\text{37,854 L}) = 3.2 \times 10^{-2} \text{ mol OH}^-$$

$$\text{(3.2 x 10}^{-2}\text{ mol OH}^-\text{)(1 mol H}^+\text{/1 mol OH}^-\text{) = 3.2 x 10}^{-2}\text{ mol H}^+$$

$$\text{(3.2 x 10}^{-2}\text{ mol H}^+\text{)(1 L/7.68 mol HCl) = 4.15 x 10}^{-3}\text{ L HCl}$$

Assuming there is no buffer solution in the pool, the final amount of HCl needed, $4.15 \times 10^{-3}$ L, is only about a teaspoon. How can so little HCl change the pH of 10,000 gallons of water. Well, that is a lot of water...enough to fill a cube that is 11 feet deep and wide...but, the acid is very concentrated and we need only a very small change in pH.

**Example II**

Now suppose you got the pH down to 7, and wonder what would happen if you dumped in the whole quart. In this example we don't have to worry about pOH, we're going from neutral to acidic with a strong acid and no buffer.

For such a large amount of water, the volume of the acid can be ignored in finding the final volume (shown here as $V_i + V_a$), but I'll leave it in for all those fussy chemistry types.

$$(10^{-\text{pH}})_i \times V_i + C_a \times V_a = (10^{-\text{pH}})_f \times (V_i + V_a)$$

Where $C_a$ denotes concentration of the acid, and $V_a$ denotes volume of the acid.

$$(10^{-7} \text{ mol/L})(\text{37,854 L}) + (7.68 \text{ mol/L})(\text{0.946 L}) = (10^{-\text{pH}})_f (\text{37,854.946 L})$$

$$\text{(10}^{-\text{pH}})_f = 1.92 \times 10^{-4}$$

$$\text{pH} = -\log ( 1.92 \times 10^{-4} )$$

$$\text{pH} = 3.7$$
Buffer Solutions

Buffer solutions resist change in pH because they contain both an acidic species to neutralize hydroxide ions and a basic one to neutralize hydronium ions. So that these acidic and basic species do not consume each other, a weak acid-base conjugate pair is used. This is usually a weak acid (or base) mixed with a salt of that acid (or base). An example is sodium acetate, NaCH₃CO₂, in a solution of acetic acid, CH₃CO₂H, according to the equation:

\[
\text{CH₃CO₂H} \rightleftharpoons \text{H}^+ + \text{CH₃CO₂}^-
\]

Notice that the NaCH₃CO₂ becomes CH₃CO₂⁻. This is because the sodium is a spectator ion, it makes no contribution to the system.

Now, if a base (OH⁻) is added, the hydroxide ions react with the acid component of the buffer:

\[
\text{OH}^- + \text{CH₃CO₂H} \rightleftharpoons \text{H₂O} + \text{CH₃CO₂}^-
\]

If an acid (H⁺) is added, it reacts with the base component of the buffer:

\[
\text{H}^+ + \text{CH₃CO₂}^- \rightleftharpoons \text{CH₃CO₂H}
\]

There comes a point, however, when too much acid or base is added and the capacity of the buffer is exceeded. To increase the capacity of the buffer, without changing the pH, simply increase the concentration of the acid-base conjugate pair.

For example, a 1 L solution that has 1 M CH₃CO₂H and 1 M NaCH₃CO₂ will have the same pH, but will have a greater buffering capacity as a 1 L solution that has 0.1 M CH₃CO₂H and 0.1 M NaCH₃CO₂.

The pH of the buffer depends on the \( K_a \) for the acid used and the relative concentrations of the acid-base conjugate pair. Using a higher concentration of the acid will lower the pH, and using a higher concentration of the base will raise the pH. In general,

\[
\text{pH} = \text{pK}_a + \log [\text{base}]/[\text{acid}]
\]

where [acid] and [base] refer to the equilibrium concentrations of the acid-base conjugate pair. This is called the Henderson-Hasselbalch equation.
Concentrations of Solutions

Definitions:
Solution — A homogeneous mixture of two or more components.
Solvent — The bulk component of a solution in which a solute is dissolved.
Solute — The component of a solution that is dissolved in a solvent.

Molarity, (mol/L)
Molarity, M, is the number of moles of solute in one liter of solution.
\[ M = \frac{\text{moles of solute}}{\text{liters of solution}} \]

Molality, (mol/kg)
Molality, also M, is the number of moles of solute per kilogram of solvent.
\[ M = \frac{\text{moles of solute}}{\text{kilogram of solvent}} \]

Normality, (eq/L)
Normality, N, is commonly used for acid/base concentrations. It is the number of equivalents per liter of solution. The gram equivalent weight is the molecular weight divided by the total number of replaceable H or OH ions of the acid or base. For example, H_2SO_4 has two available H^+ ions and a molecular weight of 98 g, so 98 g/2 equivalents = 49 g of H_2SO_4 in one liter of solution is 1 N. The solution is 1 N because it has 2 equivalents in one liter, 2 equiv/1 L = 1 N.
\[ N = \frac{\text{number of equivalents of solute}}{\text{liter of solution}} \]

Equivalent
An equivalent or, more properly, the gram equivalent weight, is the mass of a substance that donates or accepts one mole (6.022 x 10^{23}) of protons (H^+), electrons (e^-), or hydroxide ions (OH^-).
\[ \text{Eq} = \frac{\text{molar mass}}{\text{number of available H^+, OH^-, or e- transferred}} \]

There's a little room for confusion here. We say that there are two equivalents of protons in H_2SO_4, and the mass of each equivalent is 49 g.

Percent volume/volume, (mL/100 mL)
\[ \%(v/v) = \frac{\text{milliliters of solute}}{100 \text{ milliliters of soln}} \]

Percent weight/weight, (g/ 100 g)
\[ \%(w/w) = \frac{\text{grams of solute}}{100 \text{ grams of soln}} \]

Percent weight/volume, (g/100 mL)
\[ \%(w/v) = \frac{\text{grams of solute}}{100 \text{ milliliters of soln}} \]
Parts per million volume (solutions), (mg/L)
ppmv = (milligrams of solute) / (liter of soln)

Parts per million volume (gases), (µL/L)
ppmv = (microliters of solute) / (liter of air)

Parts per billion volume (solutions), (µg/L)
ppbv = (micrograms of solute) / (liter of soln)

Parts per billion volume (gases), (µL/1,000 L)
ppbv = (microliters of solute) / (1,000 liters of air)

Parts per million, (mg/kg)
ppm = (milligrams of solute) / (kilogram of soln)

Parts per billion, (µg/kg)
ppb = (micrograms of solute) / (kilogram of soln)
Hooking Up the Electrodes

As shown on the electrochemistry page, the anode is the positive electrode and the cathode is the negative electrode. If you're using a battery charger, the red (+) cable goes to the carbon rod, and the black (-) cable goes to the stainless steel.

**IMPORTANT:** Always make the anode connection **above** the solution level. There is the very real risk of contaminating the cell with ions of the connecting wire, which is usually copper. Coppers and chlorates are dangerous together, making unpredictable mixtures that can go off in your face. Besides, it's easier to just use a clamp to connect the anode to the power supply.

To measure the applied potential (voltage), a voltmeter must be placed in parallel with the cell. Think of the potential **across** the cell, and hook your voltmeter accordingly. To measure current, an ammeter must be placed in series with the cell. Likewise, you are measuring the current **through** the cell and need to set the ammeter up so that the current passes through it.

A word of caution, if you are using a 10 amp battery charger you'll need to make a special setup to measure the current with most multimeters. This is because most meters have a special, unprotected socket for higher currents, with a limit at 10 amps.
Notice that the dial on the multimeter must be set to the V with the straight lines (the top one is solid and bottom one is dashed) for DC current as opposed to the squigley ~ line for AC current. Likewise, the multimeter is set to A with the straight lines when measuring current.

Below is the setup for measuring current. A shunt line of *known resistance* is added and the voltage across that shunt is measured. Then, using Ohm’s Law, the current is calculated and any possible problems with internal resistance of the ammeter is avoided.
Suppose the lead in the picture had a 12 ohm resistor and the lead/resistor measured exactly 12.2 ohms resistance. The potential across the lead/resistor is measured at 4.89 volts. Ohm's Law is $V = I \cdot R$, so the current, $i$, is:

$$i = \frac{(4.89 \text{ volts})}{(12.2 \text{ ohms})}$$

$$i = 0.40 \text{ amps}$$
Electrochemistry

The topics of Ionic Solutions and Electrochemistry are considered to be Physical Chemistry and were largely responsible for making P-Chem a distinct subject almost 100 years ago. For the most part, this section will cover only the basics to provide a good foundation for students, and to provide useful tools for those interested in the other pages I have that deal with practical applications of electrochemistry.

Electrodes: Anodes and Cathodes

LEO says GER

Loss of Electrons - Oxidation (LEO)
Gain of Electrons - Reduction (GER)

OIL RIG

Oxidation Is Loss of electrons - OIL
Reduction Is Gain of electrons - RIG

Oxidation ALWAYS occurs at the Anode
Reduction ALWAYS occurs at the Cathode

Sign Conventions

The sign conventions of the anodes and cathodes are a common source of confusion. In one case, the anode has a positive (+) value, and in another, it has a negative (-) value. The confusion can be avoided if one remembers that the potential source electrode that emits electrons is always negative (-). In galvanic cells, the potential source is the chemical reactants. In electrolytic cells, the potential source is an electrical device.

Spontaneous Reactions - Galvanic Cells

Consider a sacrificial anode: an active metal is used to prevent the oxidation (rusting) of a less active metal such as an iron pipe.
To complete the circuit, the electrons (e-) must flow from the sacrificial anode (Mg) to the cathode (Fe), the moist soil is the electrolyte soln. If it has an electron emitting from it, it's negative (-). In a galvanic cell, the anode is the potential source electrode that emits electrons, so the anode is negative (-).

**Galvanic Cells**: Spontaneous rxn driven by chemical potential of reactants.

- **Anode**: Negative (-) Oxidation
- **Cathode**: Positive (+) Reduction

The galvanic cell shown below is a Zn/Cu couple separated by a salt bridge. The light bulb illustrates the fact that the solution is the potential source. The anode is the potential source electrode that emits electrons, so the anode is negative (-).
Externally Driven Reactions - Electrolytic Cells

Another cell with the Zn/Cu couple is shown below, but this time the zinc instead of the copper is being plated, it's the exact opposite rxn as the galvanic cell. This non-spontaneous rxn can be driven only by an external potential source.

As with all cells, the anode is the electrode at which oxidation occurs, but in electrolytic cells, the anode is positive (+). The electrical device, not the soln, is the potential source. The cathode is the potential source electrode that emits electrons, so the cathode is negative (-).
Electrolytic Cells: Non-spontaneous rxn driven by external power source.
Anode: Positive (+) Oxidation
Cathode: Negative (-) Reduction

Confusion Inhibitor
Oxidation ALWAYS occurs at the Anode
Reduction ALWAYS occurs at the Cathode
Oxidation Is Loss of electrons - OIL
Reduction Is Gain of electrons - RIG
The potential source electrode that emits electrons is designated as negative (-).

Redox Couples
Reduction + Oxidation = Redox

Redox couples are combinations of handy little half-reactions that can be mixed and matched to make just about any reaction you can dream of. The CRC Handbook of Chemistry and Physics has a nice collection of half-reactions given as standard reduction potentials. They are listed as reductions at unit activity (1 molar solutions or 1 atm pressure for gases) and at 25°C. Each one has a potential in volts listed with it for the reaction as shown. The more positive (+) the E° value for a half-rxn, the more likely is that rxn to occur as written.

Since they're all reductions, to make a redox couple you pick two and reverse the direction of
one (and change the sign of the $E^\circ$ of the half-reaction that was reversed). An example is the galvanic cell of a 1 M CuSO$_4$ soln with a copper electrode and a 1 M ZnSO$_4$ soln with a zinc electrode separated by a salt bridge.

(1) $\text{Cu}^{2+} + 2e^- \rightarrow \text{Cu}, \ E^\circ = 0.3419 \text{ volts}$
(2) $\text{Zn}^{2+} + 2e^- \rightarrow \text{Zn}, \ E^\circ = -0.7618$

If the zinc half-reaction and its $E^\circ$ are reversed:

(3) $\text{Zn} \rightarrow \text{Zn}^{2+} + 2e^-, \ E^\circ = 0.7618$

We then combine the copper reduction, rxn (1), with the zinc oxidation, rxn (3), to get the redox couple:

(4) $\text{Zn} + \text{Cu}^{2+} \rightarrow \text{Zn}^{2+} + \text{Cu}, \ E_{\text{cell}} = 1.1037 \text{ volts}$

A positive value for $E_{\text{cell}}$ indicates a spontaneous reaction. As the reactants go to equilibrium, the cell potential will fall from 1.1037 volts to zero. That is what happens to batteries; the flow of electrons slows to zero as the reactants equilibrate. To get longer life out of batteries with the same voltage (same reactants), the batteries are made bigger (more reactants).

---

**Nernst Equation**

Derivation of the Nernst eqn can be found in general chemistry text. It is presented here in a common form.

$$E_{\text{cell}} = E^{\circ}_{\text{cell}} - 0.05916/n \log Q$$

Where $Q = ( [C]^c [D]^d ) / ( [A]^a [B]^b )$ for the rxn $aA + bB \rightarrow cC + dD$ and $n$ is the number of e- in the half-rxn, or in one of the multiplied half-rxns before canceling the e-.

As shown by the Nernst eqn, an order of magnitude increase in the concentration ratio ($Q \rightarrow 10*Q$) corresponds to a 60 mV/n (0.05916 V /n) decrease in potential. Likewise, increasing the reactants by a factor of ten ($Q \rightarrow 0.1*Q$) corresponds to a 60 mV/n increase in potential.

The same type of eqn may be used to describe the concentration dependence of half-rxn potentials. For half-rxns, the numerator terms correspond to the products of the balanced half-rxn **written as a reduction** and the denominator terms correspond to the reactants.

$$E_{\frac{1}{2} \text{cell}} = E^{\circ}_{\frac{1}{2} \text{cell}} - 0.05916/n \log( [\text{Products}]^x / [\text{Reactants}]^y)$$

$$E_{\frac{1}{2} \text{cell}} = E^{\circ}_{\frac{1}{2} \text{cell}} - 0.05916/n \log( [\text{Reduced}]^x / [\text{Oxidized}]^y)$$
Confusion Inhibitor

Remember that there are two half-rxns, both written as reductions. One of these occurs as an oxidation in the net rxn, but must be written and evaluated in the Nernst eqn as a reduction. Find the $E_{\text{cell}}^{1/2}$ for each half-rxn using a form of the Nernst eqn, then find the potential for the net rxn using

$$E_{\text{cell}} = E_{\text{cathode}} - E_{\text{anode}} = E_{\text{reduction}} - E_{\text{oxidation}}$$

Ionic Strength, Ion Activity, and Activity Coefficients

Using concentrations in the Nernst eqn provides a good first approximation, but more accurate results are obtained by using ionic activities, where $a_\pm$ is the mean activity.

$$a_\pm = (a_+ a_-)^{1/2}$$
$$a_+ = y_+ \cdot m$$
$$a_- = y_- \cdot m$$

where $y_+$ and $y_-$ are the activity coefficients for the positive and negative ions respectively. Note that the lower case Greek letter gamma is commonly used, but the letter $y$ is used here due to HTML limitations. Also, there are activity coefficients for molality and molarity, let $y_m$ represent molality and $y_c$ represent molarity ($c =$ concentration).

1 electron (e-) = $-1.6 \times 10^{-19}$ coulomb (C)
1 mol e- = 1 Faraday (F) = 96485.309 C
1 C = $6.24 \times 10^{18}$ e-
1 amp (A) = 1 C/s = $6.24 \times 10^{18}$ e-/s
1 A*hr = ( $6.24 \times 10^{18}$ e-/s ) (3600 s) = $2.25 \times 10^{22}$ e-/A*hr
1 mol e- = ( $6.022 \times 10^{23}$ e- ) / ($2.25 \times 10^{22}$ e-/A*hr) = 26.8 A*hr
Table #1: Solubilities of KCl, KClO₃, KClO₄, NaCl, NaClO₃, NH₄Cl, NH₄ClO₄

Table #2: Specific Gravity and Solubility in grams of KClO₃/100 grams of saturated solution.

Table #3: Specific Gravity and Solubility in grams of KClO₄/100 grams of saturated solution.

Table #4: Specific Gravity and Solubility in grams of NaClO₃/100 grams of saturated solution.

Table #5: Specific Gravity and Solubility in grams of NaClO₄/100 grams of saturated solution.

Table #6: Specific Gravity and Solubility in grams of NH₄ClO₄/100 grams of saturated solution.

The units of solubility, x grams/100 grams of satd soln, mean that out of 100 grams of the saturated solution, x grams will be the given salt.

Specific gravity is the density of the solution divided by the density of water at 4 °C (1.000 g/mL). Specific gravity is a dimensionless number because (g/mL)/(g/mL) = 1. Because sp gr is dimensionless, it can be applied to any type of units. For example, if you're working in American Engineering units, multiply the density of water, 62.4 lb m/ft³, by the sp gr to make the conversion.
## Solubility Table #1

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<th>Temp (°C)</th>
<th>KCl</th>
<th>KClO₃</th>
<th>KClO₄</th>
<th>NaCl</th>
<th>NaClO₃</th>
<th>NH₄Cl</th>
<th>NH₄ClO₄</th>
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Crystal Shapes

Needles and Flat Plates — Potassium Chlorate, KClO$_3$
Rhombic Cubes — Potassium Perchlorate, KClO$_4$

Chlorate is polymorphic, meaning it will form different shapes under different conditions.

Picatinny Arsenal Encyclopedia articles about chlorate and perchlorate.
Potassium Chlorate

Potassium Chlorate, KClO$_3$; mw 122.55; col, non-hygr monoclinic crysts, mp 368-700, bp dec ca 400°, giving off oxygen; d 2.32, Qf -93.5 kcal/mol; Heat Capacity 23.96 cal/deg/mol at 298OK; sol in w, alkalies oraq KCl; sl sol in glycerol or ethyleneglycol; nearly insol in abs alc or abs acet.

Potassium chlorate is sl to moderately poisonous; the principal toxic effects are the production of methemoglobin and the destruction of red blood corpuscles. The probable lethal dose is 50-500mg/kg or betw one teaspoonful and one ounce for a 150-lb man This salt was first isolated by C.L. Berthollet about 1786, hence the name "Salt of Berthollet".

Two of the more important methods of prepg KClO$_3$ are:

a) Chemical(Indirect) method in which a hot satd soln of KCl is added, in sl excess, to a hot satd soln of Ca(ClO$_3$)$_2$; the soln is cooled to 0° and filtered, the ppt is washed with w and dried and

b) Electrolytic(Direct) Method by electrolysis of KCl in a diaphragm- less cell, using a cathode of steel & anode of graphite(Ref 19) Potassium chlorate is a very powerful oxidg agent and, in admixture with combustible materials, it forms very powerful expls. According to Stettbacher(Ref 12), KClO$_3$ yields the most expl mixts with reducing materials, in comparison with other oxygen releasing salts; the most dangerous is Armstrong's Mixture contg red phosphorus & KClO$_3$ (See Vol l,p A485-R). Pérez Ara. 3 (Ref 16) reports that mixts of KClO$_3$ & sulfur are unstable and are readily exploded by heat or impact. The instability of sulfur-KClO$_3$ mixts is discussed in detail by Tanner(Ref 24). Mixts of KClO$_3$ & sugar are also very expl and may be detonated by flame,heat, impact or in contact with concd H$_2$SO$_4$ Accg to Marshall(Ref 4, vol 1, 378) Dupr4 showed that heat alone suffices to explode KClO$_3$ if it is applied with suddeness. Under ordinary conditions, KC10$_3$ (like NH$_4$NO$_3$) when not in contact with combustible matter, is not a dangerous material. However, in 1899 a large quantity exploded during a fire at the United Alkali Co, St Helens, England and did an enormous amt of damage. Other serious explns occurred at Manchester in 1908 and at Seaforth in 1910, both in England. Consequently, KClO$_3$ should be stored in a fire-proof bldg away from com- bustible materials, and it should be handled with great care

Explosive Properties Kast showed(Ref 7a) that when K chloride is heated in a sealed capillary a defgrn accompanied by weak noise takes place; when heated on a spatula or dropped on a red-hot iron surface an instant decompn with evoin of oxygen takes place. It is fairly insensitive to impact(one deton and one defgrn out of 6 tests were obtained with a 20kg wt dropped from the height of 16cm) and to friction(when tested by rubbing in a porcelin mortar). Its thermal stability proved to be very good even when heated to temps 170-800. Attempts to ignite it by means of BkPdr fuse were unsuccessful and the tests for power(by Trauzi method), detonation velocity(by Dautriche method) and brisance (by copper cylinder crusher method) produced no measurable values(Ref 7a). Accdg to Blinov(Ref 13a), K or Na chlorates explode from a strong impact, if they are at temps above mp's Some expl props of mixts of K chloride with charcoal, woodmeal or Al power are given in Ref 7a Uses. Berthollet
tried to use KCIO$_3$ in BkPdr as a replacement for saltpeter, but the results were disastrous (Ref 15). It took more than 100yrs to learn how to prep KCIO$_3$ expls in such a manner as to be comparatively safe to handle. Large amts of KCIO$_3$ have been used in HE's, (such as Cheddites, Koh- lensprengstoffe, etc) in primer & igniter mixts (in combination with MF, LA, Sb sulfide, Ph thiocyanate wih or w/o abrasives), in matches, toy caps, pull-wire igniters, electric squibs, RR torpedoes, smokes, flares & signal lights (See also Refs 1,4,5,7,12,13a,14,15,16,17,18, 20a,21,22a,24a,26 & Addnl Refs). Some Ger primer compns of WWII are listed in Ref 23a,p Get 136 When used in primer and igniter compns, KC1O$_3$ increases their sensitivities to frict, cnc 191 and provides oxygen required for combustion of other ingredients. It has, however, the disadvantage to corrode firearms, because one of the products of its decompn is hot vapor of KCl, which is corrosive.

Following are examples of US military primer and igniter compns contg K chlorate:

a) Primer Mix, US Army Standard: K chlorate 33.4+2.0, Sb sulfide 33.3+2.0, LA 28.3 & carborundum 5.0+4D.57@ (Addnl Ref j, Method No 202 & Addnl Ref k)
b) Primer Mix No 70: K chlorate plus gum 53.0+5.0, Pb thiocyanate 25.0+3.0, Sb sulfide 17.0+2.0 & TNT (Grade I) 5.0P.5/-,,(Addnl Ref j, Method No 205 & Addnl Ref 1)
c) Primer Mix P-100: K chlorate 53.0.+2.0, Pb thiocyanate 25.0+1.0, Sb sulfide 17.0+1.0, & LA 5.0+1% (Addnl Ref j , Method No 206 & Addnl Ref k) (Compare with Addnl Ref e)
d) Igniter Mix for M31AIM and some other detonator assemblies: K chlorate 55.01.0 & Ph thiocyanate 45.0+1.07@

Following are examples of pyrotechnic compns (some of them obsolete) contg K chlorate:

a) Rocket red signal compn: K chlorate 25, Sr nitrate 66.6 & orange shellac 8.457o (Ref 5,p 140)
b) Red rifle & red V6ry pistol light compn: K chlorate 72.7, Sr carbonate 15.2 & orn shellac 12.17@ (Ref 5,pp 140 & 182) c) Red position light compn: K chlorate 37.5, Sr nitrate 50 & orn shellac 12.557. (Ref 5,pp 32, 140 & 184)
d) Green position light compn (See under Barium Chlorate, Uses)
e) Smoke torch blob compn: K chlorate 88.9, red gum (gum Kauri) 7.4 & charcoal (fine) 3.77o (Ref 5,p 140)
f) Yellow star compn: K chlorate 70, Na bicarbonate 15 & shellac 157@ (Ref 20a, p 206)
g) Red star compn: K chlorate 55, Sr carbonate 21, lactose 15, shellac 7 & carbon black 270 (Ref 20a, p 207)
h) Red signal compn: K chlorate 76, Sr oxalate 8, shellac 7 & tar 9’7@ (Ref 20,p 207)
i) Blue star compn: K chlorate 70, CUSO$_4$.4NH$_3$ H2O 15 & shellac 15% (Ref 20a,p 213)
j) Violet star compn: K chlorate 58.5, Sr chloride 14.5, Cu carbonate 10, sulfur 10 & shellac 77@ (Ref 20,p 215)
k) Colored smokes compns: K chlorate 28, coloring substances 36, lactose 28, sulfur 4 & Amm chloride 47, (Ref 20a, p 234)
l) Various colored smoke compns. See Ref 20a, pp 235-38
m) Russian red light signal compn: K chlorate 57, Sr carbonate 25 & shellac 18% (Ref 22a, pp 73 & 84)

n) Russian red smoke compn: K chlorate 35, rhodamine 40 & lactose 257% (Ref 22a, p 73)

o) Russian photo mixt: K chlorate 63 & Mg 37% (Ref 22a, p 84)

p) Russian black smoke compns: K chlorate 45, naphthalene 40 & charcoal 157% and K chlorate 55 & anthracene 457% (Ref 22a, pp 241-2)

q) Russian blue smoke compn: K chlorate 35, synthetic indigo 40 & lactose 257% (Ref 22a, p 242)

r) Russian yellow smoke compn: K chlorate 34.6, aminoazobenzene 40 & lactose 25.4% (Ref 22a, p 251)

s) Russian blue smoke compn: K chlorate 35, methylene blue 60 & lactose 5% (Ref 22a, p 252)

t) German pyrotechnic compns. See Ref 23a, p Get 154

Ellern (Ref 26, pp 270-80), lists numerous compns contg K chlorate of which the following are examples:

**A) Military or special safety match:**

a) K chlorate 88, charcoal 10 & dextrin 2%

b) K chlorate 50, Sb sulfide 30 & dextrin 20% and

c) K chlorate 60, Sb sulfide (black) 6, ground glass 22.5 & gum arabic 11.5%

**B) SAW (strike-anywhere) match:**

K chlorate 32, p4s310, powdered glass & other filler 33, ZnO 6, rosin 4, animal glue 11 & extender 4%

**C) Older types, percussion primers:**

a) K chlorate 53, Sb sulfide 17, Pb thiocyanate 25 & TNT 57.; it was moistened with gum soln & pressed in primer caps while wet and

b) K chlorate 41.5, Sb sulfide 9.5, CUCNS 4.7 & ground glass 44.37.

**D) Electric primer compns:**

a) K chlorate 60, DADNPH 20, charcoal 15 & NS 5% (suitable for ignition rather than for detonation) and

b) K chlorate 55 & Pb thiocyanate 45%

**E) Colored smokes:**

K chlorate 22-33, dye 30-50, Na or K bicarbonate 3-10, confectioner's sugar or lactose 20-35, kerosene or paraffin oil 2-4, kieselguhr O@4 & red iron oxide 0-3%
F) 'Plastic Bonded' colored smoke:

K chlorate 23, dye 51, sugar 18 & K bicarbonate 8%; combined with 2.2 parts of polyvinyl acetate plasticized by dichloro- methane and dried by evapn

G) 'Cap'mixtures:

a) K chlorate 67, red P 27, S 3 & pptd Ca carbonate 3%, bound with unspecified amt of 'gum water' and

b) K chlorate 61, red P 4, black Sb sulfide 21, pptd Ca carbonate 2 & animal glue 12%

H) Railroad torpedo:

K chlorate 40, S 16, sand(60 mesh) 37, binder 5 & neutralizer 2%

I) Whistling compns:

K chlorate 73-77, gallic acid 24-19 & red gum 3-4%(Ref 26, pp 270-80)

Accdg to Ref 28, there are two grades of K chlorate for use in US ammunition:

a) Grade A is intended to be used as an ingredient of primer mixtures and

b) Grade B to be used as an ingredient of pyrotechnic mixts

Following are chemical requirements:

<table>
<thead>
<tr>
<th></th>
<th>Grade A</th>
<th>Grade B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture, max</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>KClO₃ min,%</td>
<td>99.5</td>
<td>99.5</td>
</tr>
<tr>
<td>H₂O-insols, max,</td>
<td>0.02</td>
<td>0.10</td>
</tr>
<tr>
<td>pH valu</td>
<td>5.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Hypochlorites</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Chlorites</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Chlorides(as KCl)</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Bromates(as KBRO₃)</td>
<td>0.02</td>
<td>0.10</td>
</tr>
<tr>
<td>% Heavy metals</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Alk-earths</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Na-salts(as NaClO₃)</td>
<td>0-09</td>
<td>0-09</td>
</tr>
<tr>
<td>Grit</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

These two grades are subdivided into six classes accdg to granulation (See Table 11 in Ref 28)

Tests are described under Potassium Chlorate, Analytical Procedures
Potassium Chlorate, Analytical Procedures.

Chlorate ion can be detected and detd as described under Chlorates, Analytical Procedures. Potassium ion may be detected by dipping a Pt wire moistened with concd HCl into powdered sample and beating it in the non-luminous flame of a Bunsen burner. If the color of flame-is violet, the salt is fairly pure(Ref i,p 141 & Ref 3,p 862). K can be identified by pptg it as K 2 NaCo(NO 2)6 as well as by potassium salts of chloro-platinate, Perchlorate; acid tartrate, picrate, silicofluoride, etc(Ref 3,p 862). Various quantitative methods for detn of K ion are given in Refs 3,4,4a & 8 Analyses of commercial K chlorates are given in Refs 1,2,7 & 10. Determinations of K chlorate in mixts with other ingredients are given in Refs 1,3,5,7,9,11,12,13 and under Cheddites

Analytical Procedures Following are US Military Specification tests:

A)Moisture. Heat a 10g, accurately weighed sample together with a tared container, for 5hrs at 1000, cool in a desiccator and weigh. Save the sample for next opn

B)0.15g sample of dry material(saved from opn A), dissolve in 100ml of distd w contained in a 500ml Erlen fl and add exactly 50ml of an 8’7o soin of (NH 4)2Fe(SO4)2 .6H2O(Mohr’s salt). Close the flask with Bunsen valve and heat the soin to boiling. Two mins after steam ceases to emit from the valve, cool the flask rapidly to RT and remove the valve. Add 10ml of Zimmermann-Reinhardt reagent(prepd by cautiously adding 12.5ml of concd sulfuric acid & 12.5ml of phosphoric acid to 7g of MNSO4.4H20 dissolved in 50ml of w, and diluting the mixt to 100ml), shake and titrate the excess of Mohr's salt with std 0.1N soin of K per- manganate. Concurrently run the blank value for exactly 50ml of 87. Mohr's salt 7oKCIO 3 =\[ 2.043(V-v)NI/W, where V =ml of KMNO 4 required for blank, v = ml required for sample soin; N= normality of KMNO 4; and W = wt of dry sample

C)Water-insoluble material. Dissolve ca 50g of original sample in ca 650ml of warm distd w filter the soin thru a tared filtering crucible and wash the residue with 5 portions of hot w. Dry the crucible for lhr at 105 , cool it in a desiccator and weigh. Save the filtrate and residue for subsequent opns

D)pH value. Cool the filtrate from opn C to RT, transfer it to a 1000ml volumetric flask and dilute to the mark. Remove part of soin and der its pH by means of a standardized pH meter

E)Hypochlorites. Dip a strip of KI-starch paper into the soin used for pH test and if the paper does not turn immediately blue, hypochlorites are absent. Save the soin for opn F. If the paper turns blue(which indicates the presence of hypochlorites), the test for chlorites should be disregarded

F)Chlorites. If hypochlorites are absent add to soin of opn E ca 2ml of 0.1 N sulfuric acid and dip the KI-starch paper. If it does not turn immediately blue, chlorites are absent

G)Chlorides. Pipette out 100ml aliquor(of soin prepd in opn D) into a white porcelain dish, add lml of 5% K chromate soin and titrate with the soin (contg exactly 4.79lg of pure, dry Ag nitrate per 1000ml of aq soin) to the first perceptible color change. Run concurrently a blank by titrating under the same conditions of lighting and background, 100ml of distd w contg lml of the
same K chromate soln to the same color change \( \%KCl = E 0.2 (V-v) \frac{W}{W} \), where \( V \) = ml of Aq chloride required for sample soln; \( v \) = ml required for blank; \( W \) = wt' of sample in 100ml aliquot, calcd on the dried sample

H) Bromates. Pipette a 200ml aliquot(from soln prep'd in opn D) into a 500ml glass stoppered iodine flask, add 5ml of 1:9 HCl--soln and 5mi of freshly prep'd 107. KI soln followed by 5ml of starch indicator. Stopper the flask, shake it and set in a dark place for I hr. Titrate the contents with 0.02N Na thiosulfate soln until the blue color disappears. Run concurrently a blank using 200ml of distd w and the same reagents as above \( \%KBRO_3 = E 2.783 (V-v)N_1 /W \), where \( V \) = ml Na thiosulfate used for sample titration; \( v \) = ml for blank; \( N \) = normality of Na thiosulfate soln; and \( W \) = wt of sample in 200ml aliquot calcd on the dried sample

I) Heavy metals. Acidify 25ml aliquot from opn D soln with 0.1 N HCl soln and bubble H2 S gas thru the soln for ca 30 secs. No pptn or coloration should result

J) Alkaline-earth metals. Alkalize 25ml aliquot from opn D with 1 ml of 107@ Amm hydroxide soln, add 5ml of 107@ Amm oxalate soln and heat the mixt nearly to boiling. No ppt should be formed on cooling

K) Sodium salts, are detd gravimetrically by means of magnesium uranyl acetate reagent, using a 20g sample. As this, rather tedious method, is essentially the same as described in the literature(See Ref 3,pp 879-81 and Ref 8,pp 558-60), no description is given here

L) Grit. Place the water-insol residue of opn C on a small smooth glass plate and rub with a smooth steel spatula or blade. Any rough particles which behave in the manner similar to sand, when it is ground betw glass and steel, should be considered as grit

M) Granulation. For classes 1,2,3,4 & 5 a 100g sample is shaken on appropriate set of sieves 10mins by hand or 5mins by means of a mechanical shaker geared to produce 300+15 gyrations and 150+10 taps of the striker per min. The portions retained or passed by the various sieves should be weighed and the results calc'd to the percentage basis. For class 6, a 10g sample is placed on a dry tared, 3" diam No 325 US Std sieve, and washed with a steady gentle stream of isopropanol(previously saturated with K chlorate at 25t50) from a wash bottle, breaking up any lumps by means of a glass rod. During the washing the sieve should be shaken gently and occasionally the bottom of the screen tapped. Washing should be continued until no more sample passes thru the sieve; then the sieve is dried on a steam bath and in an oven at 100-1050 for 15mins, cooled in a desiccator and weighed. No more than 5% of sample should be retained on the sieve.

Tests conducted at the Bofors labs(Ref 7) include the following:

a) Appearance. White and free from mechanical impurities

b) KCIO_3 content. Dissolve an accurately weighed 0.5g sample in 200ml distd w con-tained in a 400ml tall beaker, add & dissolve 5g of Na nitrite(chloride-free) and then 50ml of 0.l N Ag nitrate soln. Cover the beaker with a watch glass and boil gently in a hood(while adding disrd w occasionally to maintain the original volume), until the evoln of nitrous fumes ceases. Cool and add 5ml of 10% ferric alum soln(conrg 10ml of concd nitric acid per liter) as indicator and titrate with 0.IN Amm thiocyanate soln. Run concurrently a blank detn \( \%KCIO_3 12.255(b-a)n I /w \),
where \( b = \text{ml of thiocyanate soln used for sample; } a = \text{ml used for blank; } n = \text{normality of thiocyanate soln; and } w = \text{wt of sample} \)

c) Bromates. The method is essentially the same as the US spec method, described here as H, except that a 2g sample is used and Na thiosulfate soln is 0.01N. Starch indicator is a 1% aq soln.

d) Water-insoluble matter. The method is essentially the same as the US spec method described here as C, except that a 10g sample dissolved in 200ml distd w is used. The filtering crucible is of medium porosity, such as Jena IG3 or Pyrex M. Save the filtrate.

e) Perchlorates. Det them qualitatively by adding to 10 ml of filtrate from previous opn, 0.5 ml of 0.3% aq soln of methylene blue. In the presence of perchlorates, a violet ppt with green fluorescence is formed.

f) Nitrates. Mix in a test tube a few mls of opn D filtrate with 1 ml dil sulfuric acid and some cold satd ferrous sulfate soln. While keeping the rest tube inclined, let a few mls of concd sulfuric acid run slowly (from a pipette) down along the inner side of the tube, so that the acid does not mix with the aq soln but forms a layer under it. If nitrates are present, a dark brown ring will appear at the contact surface betw the two liquids.

g) Chlorides. Acidify slightly with dil nitric acid 10 ml of filtrate from opn d and add 1 ml of 10% Ag nitrate soln. If turbidity is obtained within 5 mins, chlorides are present. Compare the turbidity with those obtained with solns contg known amts of chlorides (Ref 7) For large amts of chlorides, detn is made by titrating a neutral soln of sample with 0.1 N Ag nitrate soln using ca 10 drops of 10% K chromate indicator, to the first reddish coloration (For details see Ref 7, p 103).

h) Sulfates. Acidify slightly with dil HC1 (1:1) 10 ml of filtrate from opn D and add 1 ml of 10% Ba chloride soln. If turbidity is obtained within 15 mins, sulfates are present. Compare the turbidity with those obtained with solns contg known amts of sulfates (Ref 7, p 103) For large amts of sulfates, detn is made by gravimetric method described in Ref 7, p 103.

i) Heavy metals. Acidify 10 ml of filtrate from opn d with 0.5 ml of 107° HCl soln and bubble hydrogen sulfide thru it for 1 min. Dark coloration or ppt indicates heavy metals.

j) Alkaline-earths. Alkalize 10 ml of filtrate from opn d with 0.5 ml ammonia, add 2 ml of 10% Amm oxalate soln, heat to nearly boiling and then cool. Ppt or turbidity indicates the presence of alkaline-earths.

k) Ammonium salts. Warm :, a test tube a lg sample with 10 ml of 107° NAOH soln and if ammonia is evolved (as indicated by odor or by moistened litmus paper held in the opening of the test tube), the sample contains an Amm salt.

l) Sodium salts. Heat a clean Pt wire over a Bunsen flame until no yel flame is visible, cool, plunge into a satd soln of sample and heat as above. Yel coloration of flame indicates the presence of appreciable amt of Na salt. If only traces are present a very pale yel color is observed besides the characteristic violet color of K salt A more precise "flame spectrophotometric method" is given in Ref 6.
m) Reaction. Dissolve a 10g sample in 200ml of hot distd w, cool, filter thru a coarse paper and wash the filter with 50ml distd w. Divide the filtrate into two parts and add to one part a few drops of methyl red indicator and to another part a few drops of phenol--phthalein soln. If the lst part turns red the soln is acid and if the 2nd part turns pink the soln is alkaline.

n) Moisture is detd by heating a 5-10g sample at 100° for 2hrs or by Karl Fischer method (Ref 7, p 15).

o) Granulation is detd as described in Ref 7, p 23. US Std sieves or Tyler sieves can be used.

Bofors AB also describes (Ref 7, p 150), the following calorimetric method for detn of chlorates in perchlorates:

Mix a 2g sample with 2ml of aniline reagent (3.6g of aniline dissolved in 100ml of 1:1 HCl soln) and 0.5ml distd w. If a blue or green coloration appears within 30mins, chlorates are present. Det the contents as KClO₃ by comparing the color of soln with those obtained with solns of pure KClO₃ of known contents. Determinations of K chlorate in expls are similar to those described under Cheddites, Analytical Procedures. Determinations of K chlorate in primer- and igniter- comps are described in Refs 5, 9, 11, 12 & 13. Following procedure was developed in 1950 at PicArsn and is incorporated in Spec MIL-D-2493 (Ref 12, pp 6-7). It is applicable to mixes contg K chlorate, Sb sulfide, LA & Pb thiocyanate Prepn of wash solns: Soln No 1. Add to ca 800ml of distd w in 1 liter amber glass bottle, ca 40g of K thiocyanate, insert a rubber stopper and shake until complete dissolution. Add to this soln 1.0g Pb thiocyanate, 1g of Sb sulfide and 1g of LA; restopper the bottle, shake vigorously for ca 10mins and allow it to stand overnight. When necessary, remove a portion required for complete test, filter it before using and transfer to a burette. Soln No 2. Add to ca 400ml of distd w in a one-half liter amber glass bottle, 1.0g of Pb thiocyanate, 1.0g of Sb sulfide & 1.0g of LA; insert a rubber stopper, shake vigorously for ca 10mins and allow it to stand overnight. Filter before using a portion required for complete test and transfer to a burette. Procedure. Weigh a 1g sample (previously dried at ca 650) in a tared 30ml sintered glass crucible of medium porosity, add from the burette 3.0 ml of soln No 1 and swirl the crucible for exactly 1 min taking care not to spill any liquid. Remove the liquid by suction, disconnect the crucible from the neck of suction flask, and wipe the bottom of crucible with tissue paper. Repeat the above opns, first with another 3.0 ml portion of soln No 1, then with two 2.0 ml and two 1.0 ml portions making a total of 12.0 ml of soln No 1. Remove the crucible, discard the filtrate and wash with distd w the outside of crucible, the adapter and suction flask. These opns are supposed to remove completely K chlorate, leaving other ingredients of primer mix intact. In order to verify the completeness of washing, swirl the crucible with another 1 ml portion of soln No 1 and transfer the liq by suction to a test tube. Mix its contents with 1 ml distd w, incline the tube at an angle of ca 45° and add slowly from a dropper ca 0.5ml of diphenyl-amine reagent (lg of DPHA dissolved in 100ml of concd sulfuric acid) in such a manner that it runs along the inner side of the tube without mixing with soln No 1 but forms a layer under it. If an appreciable amt of chlorate ion is present, a distinct blue ring will be visible at the junction of the two layers. On shaking the tube, the ring disappears, but the contents assumes a blue coloration, which lasts several seconds depending on the amt of chlorate ion present. If only a trace of chlorate ion is present, the blue ring may not form, but upon shaking the test tube, a slight bluish coloration will appear momentarily throughout the
soln, lasting only a fraction of a second. If a definite blue ring forms, repeat the washings as before using one 1.0 ml portion of soln No 1, followed by 0.5ml portion. Usually not more than a total of 14.5ml is required. After complete removal of K chlorate, swirl the crucible once with 1.0 ml of soln No 2 and remove the liquid immediately by suction. Wipe the bottom of crucible with tissue paper, dry the crucible in an oven at 80+10 for 30mins, cool in a desiccator and weigh. 

%KC10 3= (100B)/W, where B= loss in wt of the contents of crucible and W= wt of the sample on a moisture-free basis For detn of other ingredients: Sb sulfide, LA & Pb thiocyanate, see Ref 12,pp 7--If the mix does not contain Pb thiocyanate the wash solns do not contain any thiocyanate and in some cases the washing may be conducted by using LA-satd distd w as described in Ref 12,p 9 For an initiating mix consisting of K chlorate 55 and Pb thiocyanate 45%, the thiocyanate is detd first by the method described in Ref 12,p 10 and K chlorate is calcd by subtracting Pb thiocyanate content from 100. For primer mix No 70, the ingredients: TNT, Sb sulfide and Pb thiocyanate are detd as described in Ref 13, while the remaining ingredient K chlorate + gum is calcd by subtracting from 100 the sum of other ingredients.

Pyridine Chlorate, HC-N ==CH11 l .. HClO3; HC-CH@CH mw 165.56, N 8.56%; wh crystals(from alc) having soft, soapy touch & odor of pyridine,

Sodium Chlorate, NaClO3; mw 106.45; reported in Mellor(Ref 3) to be tetramorphous, forming: a)cubic b)unstable rhombic c)unstable monoclinic and d)rhombi(z or pseudo-cubic crystalline forms; col, odorless cubic crystals are the common form; mp 248-610, bp decomps; d 2.45-0 at 150; n, 1.515 at 200; sol in w, alc, alkalies, and aq solns of NaCl, glycerol and liq ammonia (Ref 3)(See also Refs 5,6,11 & 18b)

Methods of prepg NaClO3 are the same as those for KC103 except that Na salts are used. Detailed description of methods of prepn are given in Refs 1,5 & 11. The present coml method is by electrolysis of hot concd. aq soln of NaCl (Refs 8,9 & 11) Sodium chlorate decomp when heated or in contact with combustibles or concd acids, in the same manner as the potassium salt. Although it is a powerful oxidg agent and contains more oxygen per unit wt than KC103 it has not found wide use in expls due to its extreme hygroscopicity & high sensitivity. According to Faber(Ref 2), one of the principal reasons why NaClO3 is dangerous is due to the deliq & subsequent effl of the material causing segregation of fine crysts which are highly reactive. An expln which cost the lives of 4 persons and injured several others occurred in the chemistry bldg of Howard University, Washington, DC on 27 March 1952. The blast resulted when ca 400 lbs of sodium chlorate was being removed from a basement storage room(Ref 16). The investigating committee reported that a static elec spark, believed to have been generated when a worker grasped the metal handles of the loaded hand truck, caused the expln & fire. The report recommended NACIO3 should never be stored in a general storage area, but it should be stored for lab use in glass bottles contg not over 1-lb(Ref 17) Details concerning the props, hazards and percautions in handling & storing NaClO3 are discussed by Mattair(Ref 15) and in MCA safety booklet(Ref 14)

Explosive Properties. They are comparable to those of K chloride. Expuls contg NACIO3 possess slightly higher power than those contg an equal proportion of KClO3 . For example, among the expls listed by L.M6dard, MP 32, 210(1950), the one contg 907g NaClO3 & 107g paraffin is about 87. more powerful than the corresponding expl contg KC103

http://users.foxvalley.net/~chemengr/chlor.html (9 of 13) [12/2/1999 3:28:36 PM]
Uses: Na chlorate, being hygroscopic, was not used in older expl compns until a method was found to waterproof the substance. This was achieved by coating the grains of Na chlorate with oily, greasy or plastic materials (such as castor oil, vaselin, paraffin, etc) and the resulting exps became known as CHEDDITES (qv), also called Streetites or Street Explosives. Some of these expls were used by the French during WWI for military purposes, such as demolition work and for loading grenades, mines and trench mortar bombs. Coating of grains not only rendered them less hygroscopic but it also made them less sensitive to friction and impact (See also Refs 1, 6 & 11). Babor (Ref 8) waterproofed the Crysts of Na chlorate by coating them with 4% collodion soln, followed by drying. Several expl compns contg Na chlorate and combustible materials were patented in France after WWII (Ref 13). A Na chlorate expl developed during WWII by Kiernan & Bowen was tested at PicArsn and found to be unsuitable for military purposes (Ref 10a). Some Ger Na chlorate expls, such as Chloratits, Gesteins-Koronits and Miedziankit, are listed in Ref 18a. NACIO3 has also been used in manuf of matches (Ref 12) and in some pyrotechnic compns (Ref 20). Kirk & Othmer (Ref 11) lists its principal uses as an intermediate in the manuf of perchlorates and in weed killers CPCEM (Compagnie de produits chimiques 'lectrom4tallur et e giques) Alais, Frogues & Camargue patented recently [FrP 992332(1951) & CA 50, 11020(1956)], a pyrotechnic mixt of a chlorate or a nitrate and tar, such as Na chlorate 80 & tar 20% made in the form of a rod 6mm in diam and 170mm long, covered with a 0.1 mm synthetic resin layer. The rod burns for 95sec developing a temp of 1400-16000. Immersion in water for 3hrs did not impair its burning characteristics.

US Military Spec (Ref 21) covers the reagent-grade Na chlorate and the requirements are:

a) NaClO3 content, minimum 99.70
b) insolubles, maximum 0.010
c) Bromate (as BrO 3), max 0.07
d) Chloride (as Cl), max 0.005
e) Nitrogen compds (as N), max 0.001
f) Sulfate (as SO4), max 0.003
g) Ca, Mg & Amm hydroxide 0.01 precipitate, max
h) Heavy metals (as Pb), max 0.001
i) Iron (as Fe), max 0.0005
j) Form Crysts
k) Color Colorless

Accdg to Belgrano (Ref 16a) a good Na chlorate, suitable for Cheddites should possess the following properties:

NACIO3 min content 99.50%,
NaCl max 0.057%,
insolubles max 0.04%, and
moisture max 0.07%

US Specification MIL-S-11169 (Requirements for Na chlorate, reagent grade) Sodium Chlorate, Analytical Procedures.

Chlorate ion may be detected and detd as described under Chlorates, Analytical Procedures. Sodium ion may be detected by the color it imparts to a flame, or by means of the spectroscope. The procedure is described in Ref 1, p 875 (See also Ref 2). For quantitative detn of Na, it can be precipitated as Zn-, Mg--Co- or Ni-, uranyl acetare as described in Refs 1, 2 & 5. Other methods, such as pptn as Na pyroantimonate or as Na cesiumbismuth nitrate, may be used Na chlorate intended for US military use is analyzed as prescribed in Ref 6. The procedures are as follows:

A) NaClO₃ content. Weigh accurately a 0.1g sample (previously dried over concd sulfuric acid for 24hrs) and dissolve it in 10ml distd w in a 250ml Erlen fl. Add 35.0 ml of acid ferrous sulfate soln (prepd by dissolving 7.00g of ferrous sulfate in 90ml freshly-boiled distd w and addg sufficient amt of concd sulfuric acid to make 100ml), close the flask with a stopper provided with Bunsen valve and boil gently for 10mins. Cool, add 10ml of 10% manganous sulfate soln and titrate the excess ferrous sulfate with 0.1N K permanganate soln. Run concurrently a blank with 35.0 ml acid ferrous sulfate %NaClO₃ = [(A-B) x 0.17741 /W, where A= ml of K permanganate soln used in the blank, B= ml used in the sample test and W = wt of sample

B) Insolubles. Dissolve a 10g sample in 10ml of hot distd w, heat on a steam bath for lhr, filter thru a tared sintered glass crucible, rinse it with hot w, dry at 105t30, cool in a desiccator and weigh.

C) Chloride. Dissolve exactly 2.000g of sample in 40ml of hot distd w, (contained in a 100ml Nessler tube), cool, add 5 drops of nitric acid (free from nitrogen oxides) and 1 ml of Ag nitrate (prepd by dissolving 1.700g of AgNO₃ in sufficient w to make 100ml). Prepare a blank in another Nessler tube with 40ml of w, 5 drops of nitric acid, 1 ml of Ag nitrate and 0.10mg of NaCl (or 1 ml of a soln contg 0.1649g NaCl in 1 liter). If the turbidity in the sample tube is greater than in the blank, the material does not comply with requirement of Ref 6.

D) Bromate. Dissolve exactly 2.000g of sample in 200ml of freshly boiled and cooled w in a glass-stoppered flask, add 10.0ml of 1N HCl, mix, and add 10ml of freshly prepd 10% KI soln followed by 5ml of freshly prepd starch indicator. Stopper immediately, swirl gently to mix the contents and allow it to stand for lhr protected from light. Titrate with 0.1 N Na thiosulfate solution until the blue color disappears. If more than 0.65ml of thiosulfate is required, the material does not comply with requirement of Ref 6.

E) Nitrogen compounds. Dissolve exactly 2.000g of sample in 4.0ml distd w, add 1.000g of powdered Devarda's metal and 20ml of 107.NAOH. Stopper the flask and, after allowing it to stand in a cool place for 2hrs, distil 40ml, collecting the distillate in 5ml of w contg 1 drop of dil HCl. Add to the distillate 1ml of 10% NAOH and 2.0ml of Nessier's soln (prepd as described in...
Ref l,p 630, Footnote 2). Prepare a control with 0.02mg of nitrogen by creating 2ml of a soln contg 0.0382g of NH$_4$Cl in 1000mi of w in the same manner as the 2g sample. If the color of test soln is darker than the control, the sample does not comply with spec requirement.

F) Sulfate. Dissolve exactly 3.000g of sample in 100ml of w, add 1ml of 10% HCl and 5ml of Ba chloride soln (prep’d by dissolving 12.00g BaCl$_2$ in sufficient w to make 100ml). Allow it to stand overnight and if any turbidity or ppt forms, the sample does not comply with requirements of spec.

G) Ca, Mg and Amm hydroxide precipitates. Boil a soln of 10.00g sample in 50ml of w and 15ml of 37% HCl until no more chlorine is evolved. Dilute to 120ml with w, heat to boiling, add 5ml of Amm oxalate soln (prep’d by dissolving 4.000g in sufficient w to make 100ml), 3ml of Amm phosphate soln (prep’d by dissolving 13.00g of dibasic Amm phosphate in sufficient w to make 100ml) and 20ml of 287@ Amm hyd?oxide. Allow it to stand over-night and if a ppt is present, filter, wash with 2.5% Amm hydroxide and ignite. If the wt of the residue exceeds 0.0010g, the sample does not comply with requirements of spec.

H) Heavy metals. Evaporate to dryness on a steam bath a mixt of 5-000g of sample with 15ml of hot w & 10ml of 37% HCl, and dissolve the residue in 50ml of w. Treat 10ml of this soln with 2ml of the soln (prep’d by dissolving 0.0160g of Pb nitrate in 1000ml of w) which is equivalent to 0.02mg of Pb, dilute to 30ml with w and add 1ml of IN acetic acid (Soln A). Treat 30ml of original 50ml soln with 1ml of IN acetic acid and designate it as Soln B. To both solns add 10ml of freshly-prepd satd aq soln of hydrogen sulfide and if Soln B is darker than Soln A, the sample does not comply with spec requirement.

I) Iron. Add to the remaining 10ml from the test H, 15ml of butanolic potassium thio- cyanate soln (prep’d by dissolving 10.00g of K thiocyanate in 10ml of w, warming to ca 300, adding sufficient n-butanol to make 100ml and shaking vigorously until clear), shake vigorously for 30secs, and allow it to separate. Prepare a control by mixing 0.50ml of the soln contg 0.005mg of iron Eprep by .FE(SO ),.12H 0 dissolving 0.08635g of NH$_4$ 4 .2 in 10ml of 10% sulfuric acid and adding sufficient w to make 100ml with 10ml of w, 1ml of 37% HCl, 15ml of butanolic K thio- cyanate, shake vigorously and allow it to separate. If the red color in butanol layer in the sample mix is darker than the control, the material does not comply with spec requirement.

Kaye (Ref 3) describes a method for detn of purity of Na chlorate by titration in non-aqueous medium and Halik & Croom (Ref 4) give a flame spectrophotometric method for detg Na chlorate in K chlorate.

**Refs:**

1) Scott & Furman (1939), 875-8

2) Treadwell & Hall (1942), vols 1 & 2

3) S. Kaye, PATR 1947 (1953) (Detn of purity of inorg compds of ordnance interest by titration in nonaqueous medium)

4) M. Halik & R. Croom, PATR 2430 (1957)
Strontium Chlorate, \( \text{SR(CIO}_3\text{)}_2 \) mw 254.54; wh rhomb crystals, mp dec 1200, \( @d \) 3.152; sol in w, insol in alc; was obtd in 1843 by A. Wachter (See in Ref 2) on warming, over concd H2SO4 a soln obtd by neutralizing aq HClO3 with either SR(OH)2 or SrCO3. The anhyd salt may also be obtd by heating the octahydrate or other hydrates to ca 1200. Monobrate, \( \text{Sr(CIO}_3\text{)}_2\text{H}_2\text{O} \), is listed in Ullmann(Ref 2). Trihydrate, \( \text{Sr(CIO}_3\text{)}_2\text{.3H}_2\text{O} \) is reported in Mellor(Ref 1) as having been obtd by A. Potilitzin in needle-like crystals by cooling a 597\(^\circ\) soln of strontium chlorate to -400, and rhomb prisms by cooling a 647\(^\circ\) soln to -20 to 250. octahydrate, \( \text{Sr(CIO}_3\text{)}_2\text{.8H}_2\text{O} \); mw 398.67; wh ndls, mp(looses 8H 20 at 120\(^\circ\) & decomp at 2900); sol in w, sl sol in alc; coml salt can be prepd either by electrolysis of strong aq soln of \( \text{SrCl}_2 \) or by passing chlorine gas thru a warm aq soln of SR(OH)2 with subsequent evapn of the w and crysn of the octahydrate. Uses: The octahydrate is used as an oxidg agent in expls, exercizing a cooling effect due to the large amt of w of crysn, and in pyrotechnic compns for producing a red light (Refs 3a, 4a & 7).

Izzo(Ref 4a) gives the following compn for violet light star: Sr chlorate, 14.5, K Chlorate 58.5, Cu carbonate 10, sulfur 10 & shellac 77-
Potassium Perchlorate

KClO$_4$, MW 138.55, OB to K$_2$O & HCl +46.2%; white rhomb crystal solid which is transformed to a cubic form at 300 deg and melts at 588 deg with decompn (Ref 16); d at 0, 2.53574 +/- 0.0001g/cc (Ref 11); Qf -111.29kcal/mole (Ref 14); CA Registry No 7778-74-7

**Preparation** The early history of the prepn of K Perchlorate by the action of acids on K chlorate is reviewed in Ref 3. These authors found that treatment of 2-5g of K chlorate with 50ml of concd sulfuric ac gave an 11% yield of K per. chlorate. The sulfuric ac must be added slowly with cooling to the K chlorate, or explns may result. Similarly, nitric ac gave a yield of 15-30%, 85% phosphoric ac gave a yield of 15%, and Cr trioxide gave a yield of 12-15%. Org acids failed to yield any Perchlorate when heated with K chlorate (Ref 3). It can also be prepd by heating a mixt of solid K chloride with nitrosyl Perchlorate (ONClO$_4$). Nitrosyl chloride is evolved and a residue of K Perchlorate is left (Ref 26). On a commercial scale, K Perchlorate is prepd by mixing hot aq solns of Na Perchlorate and K chloride. Upon cooling, Na chloride is pptd and filtered off. Upon further cooling, the K Perchlorate seps and is recrystd from hot w (Ref 18). The manuf has been reviewed (Ref 21). Prior to 1958 prodn was betw 784 and 4370 tons/yr at a cost of 18.5-20 cents/lb (Ref 19, p 87)

**Impact Sensitivity** K perchlorate and mixts of it with 1% ferric oxide, Mn dioxide, sugar, Amm dichromate, and a 50/50 mixt with Amm nitrate were all insensitive to impact (over 320cm) with a 2.5 kg wt (Re f 13)

**Solubility** In w at 0 deg it is 0.75; at 100deg, 18.2; and at 265deg, 70g/100ml of satd soln. These values are smoothed data from several earlier sources (Ref 27, p 178). Solys in org solvs are given in Ref 27,. p 187

**Effect of Heat** The thermal decompn is said to be sharp at 510$^\circ$ to give K chloride and O (Ref 7). Bircumshaw & Phillips, however, state that the decompn is complicated and irreproducible in a vacuum, with Cl as well as O and K chloride being formed (Ref 8)

**Explosion Temperature** The expln temp of 80/20 mixts of K perchlorate with org compds was found to be: ethylene glycol, 2400; polyester resin, 2900; and cotton linters, 2450. The addn of 1% K chloride, Li chloride, or Li bromide failed to change these temps (Ref 15) Uses (see also under Perchlorate Propellants and Explosives)

**Delay Compositions** (comps used in fuses and other timing devices and which have an exactly predetd burning rate).

A mixt of 54.5% Ba chromate, 30.5% powd W, 10% K Perchlorate, and 5% Si dioxide has a Qr of 358cal/g, and burning rates of 29.7sec/inch at 15psi and 18.7 sec/inch at 1200psi (Ref 4). Similar mixts of 44.5-49.5% Ba chromate, 35-9% powd W, 10% K Perchlorate, 5%
diatomaceous earth, and 1.0-1.5% Ba or Zn stearate have burning rates of 11.8768-12.8962 sec/inch at -65°F, and 12.5313-13.1420sec/inch at 71OF (Ref 34).

Compns of 54% Zr/Ni alloy, 3 1 % Ba chromate, and 15% K Perchlorate have burning rates which can be varied by using alloys of 70/30, 50/50, or 30/70 Zr/Ni. The burning rates are ca 1:2:3 respectively (Ref 22, p 283). Specs for mil W delays are in MIL-T-23132 (1961).

A similar series of fuse powder contg mixts of Zr/Ni and Ti/Ni alloys, Ba chromate, and K Perchlorate are described in Ref 31. The burning rates can be varied betw 2 and 25sec/inch by changing the compn.

Flares, Signaling Devices, and other Pyrotechnics

A large number of formulations contg K perchlorate have been reported. Some devices which use these are: red RR signal flares (Refs 2 & 22, p 275); parachute flares (Ref 6); "stars" for use in signaling pistols (Very pistols) (Refs 5 & 22, p 275); variously colored flares (Refs 19, pp 197-8 & 22, p 275); "stars" and other components of display fireworks (Refs 16 & 32)1: and "whistlers" (Ref 22, p 280)

Combustible Cartridge Cases Cotton gauze is impregnated with a mixt of 70% K perchlorate, 14.5% et cellulose, 9.6% Neolyr 23 curing agent, and 6.2% plasticizer; the impregnated cloth is formed into cartridge cases, and cured to give combustible cartridge cases (Ref 29)

Igniters A pellet composed of 26.5% K perchlorate, 16.6% Ba nitrate, 53.9% 50/50 Zr/Ni alloy, and 3.0% et cellulose can be used to ignite solid proplnt grains (Ref 25).

A series of mixts of K Perchlorate with powd metals and other oxidizable mat were examined as substitutes for BlkPdr as a gun primer. Most of the mixts tested were found to be satisfactory and to be compatible with brass and other metals (Ref 9)

Incendiary Compositions Stoichiometric mixts of K Perchlorate with metals and oxidizable mat have been proposed as incendiaries of the Tbermit type and have heats of reaction as follows: Al dust 2504, powd Mg 2429, red P, 1477, powd S 705 and powd C (lampblack) 11 18cal/g (Ref 4).

A mixt of 12.5% K perchlorate, 75% powd Zr, and 12.5% of a 50/50 Al/Mg alloy is reported to be a readily-ignited incendiary (Ref 20).

Mixts of powd Al and/or powd Fe with K Perchlorate with 1.5-2% NC as a binder are also good incendiaries (Ref 35).

A mixt of 35% Ca silicide, 35% powd Sb, 30% K Perchlorate, and 5% NC is listed as a fire starter mixt (Ref 22, p 282).

A mixt of 40 parts of powd Al, 60 parts of K Perchlorate, and 4 parts of chlorinated rubber were placed in a hole drffled in concrete and ignited, resulting in the concrete being shattered without any expln (Ref 33)

Photoflash Compositions Workers at PicArsn have investigated a series of mixts of K perchlorate with powd metals for use as photoflash compns. Info on candlepower, time to peak luminosity, and duration of flash, as well as performance at sea level and I x 105 feet, are given
for each compn (Ref 23).

A standard mil photoflash compn is given as 40% atomized Al, 30% Ba nitrate, and 30% K Perchlorate (Ref 22. p 274)

**Smoke Generating Compositions.** A series of mixts of K Perchlorate with powd Zn, hexachloroethane, and/or C black is reported in Ref 12. Temp stability info is also included in this Ref.

A compn of 42.7% K Perchlorate, 22.3% powd Al, 8.1% hexachloroethane, and 16.9% Li carbonate forms a dense smoke on ignition which is hygroscopic, giving a denser smoke cloud in moist air (Ref 28).

Another somewhat different compn of 50-80 parts of sulfamic ac and 20-50 parts of K Perchlorate is claimed to produce dense smoke on combustion (Ref 17)

**Tracers** To a mixt of 34 parts of Laminac resin, 4 of benzyl alc, 2 of Co naphthenate, and 4 of me et ketone peroxide is added an equal wt of a mixt of 1 part of powd Mg and 2 of K perchlorate. The mixt is formed and cured to give a tracer for following visibly the path of rockets (Ref 24).

In Ref 16, p 275 are given formula-tions for mixts contg K Perchlorate which is used in tracer ammo for automatic small arms. Tracer compns contg powd Zr which are suit-able for modem HV small arms are discussed in Ref 30

**Specification** The requirements for mfl grade material are covered in Mil Spec MIL-P-217A, Amendment 1 (1966).

Two grades are listed, Grade A and Grade B; their chemical requirements are detailed in Table 1

<table>
<thead>
<tr>
<th>Chemical Requirements</th>
<th>Grade A</th>
<th>Grade B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Chlorides (as KCl)</td>
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<td>0.10</td>
</tr>
<tr>
<td>Chlorates (as KClO₃), max</td>
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<td>0.086</td>
</tr>
<tr>
<td>Hypochlorites</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bromates (as KBrO₃), max</td>
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<td>0.004</td>
</tr>
<tr>
<td>Sodium (as NaClO₄), max</td>
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<td>0.20</td>
</tr>
<tr>
<td>Calcium and Magnesium salts (as oxides)</td>
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<td>0.08</td>
</tr>
<tr>
<td>max Grit and Water insoluble</td>
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<td>0.02</td>
</tr>
<tr>
<td>max Iron (as Fe₂O₃), max</td>
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<td>0.0004</td>
</tr>
<tr>
<td>pH of water solution</td>
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<td>7.0 +/-1.5</td>
</tr>
<tr>
<td>Assay KClO₄, min</td>
<td>99.0</td>
<td>99.0</td>
</tr>
</tbody>
</table>

Table 1
Five classes of KClO₄ are given based on particle size.

These are:

Class I - 99.9% by wt passing US Standard Sieve No 40 (420 micron);
Class 2 - 99.9% by wt passing US Standard Sieve No 100 (149 micron);
Class 3 - 99% by wt min passing US Standard Sieve No 80 (177micron), and 80-90% by wt passing US Standard Sieve No 200 (74 micron);
Class 4 - Aver. age particle diameter 20 5 microns by Fisher Sub-Sieve Sizer;
Class 5 Average particle diameter 70 ± 30 microns by Fisher Sub-Sieve Sizer

Sodium Perchlorate

NaClO₄, MW 122.44, OB to Na₂O & HCl +52.3%; while rhmb crysts which change to the cubic form at 313°, melt at 473°, and decomp at 480° (Ref 8) into Na chloride and O (Ref 7); d 2.5298g/cc (Ref 1 0); Qf -91.48 +/- 0.22kcal/mole (Ref 12i; CA Registry No 7601-89-0

The anhyd salt is obtained when samples are recrystd from w above 530; below this temp a monohydrate is obtained (see below). The pure salt is best obtained on a lab scale by dissolving pure Na carbonate in a slight excess of dil aq per- chloride ac, the soln partly evapd, cooled to 500, the solid centrifuged off, and dried in a current of air at 250°. Similar results were obtained starting with pure Na chloride (Ref 2). On a coml scale it is prepd by the electrolysis of Na chloride (see Vol 2, C197-R). Processing details and economics of the prepn are given in Refs 5 & I 1. Concld solns are used, and modern plants use continuous electrolytic ceus. In 1960 prodn was estimated to be ca 10000 tons/year at a cost of 17.564/lb (Ref I 1, p 87)

Hydrates Monhydrate, NaClO₄.H₂O, hygr crysts, mp 130 0 with loss of w. It is obtained when concd aq solns are recrystd below 50' (Ref 1). A sesquihydrate, 2NaClO₄.H₂O, and a trihydrate have also been reported (Ref 1)

Impact Sensitivity Pure Na Perchlorate and mixts with 1-2% of various subs were found to be insensitive to impact (over 320cm) (Ref 9)

Solubilities Ing/100g of solv the solys are:w 209.6, me alc 51.4, acet 51.7, et alc 14.7, pr alc4.89, bu alc 1.86, et acetate 9.65 and iso-Bu aic 0.786. It is insol in eth (Ref 3)

Toxicity Injection of aq Na perchlorate into rabbits caused no long term toxic effects. It behaved as a mild muscular poison, and large doses caused liver damage and diarrhea. Goldfish will live indefinitely in a 0.1% soln, but a 1% soln will cause asphyxia (Ref 4)

Uses The primary use for Na Perchlorate is in the mfg of other perchlorates and most of the prodn is used captively by the same plant which made it (Ref I 1, p 87). Other uses which have been reported follow:

Flares A flare compn is described in Refs 15 & 16 contg powd Mg, Na Perchlorate, and a
binder which can be cast and cured, and which has a luminous intensity of 50,500 candle-secs/g Incendiaries.

A mixt of 1.009 of Na Perchlorate and 58.7g of powd Al has a Qr of 2751cal/g and can be used as a filler for incendiary bombs (Ref 6).

A proc is described in Ref 14 for coating Na Perchlorate with Al, and the use of the coated material in incendiaries

**Photoflash Compositions** Mixts of 80% Ca metal and 20% Na perchlorate; and 80% Ca, 10% Na Perchlorate, and 10% Na nitrate have been examined as expl photoflash compns for both sea level and high altitude use (Ref 13)
Separating the Product

The most important issue in purification is the amount of chlorate that can be tolerated in the perchlorate. That depends largely on your experience and intended use. The easiest way to avoid chlorate is to oxidize the chloride enough so that there is very little chlorate left.

I don't throw anything away—if it's not thrown out, it's not lost. The old electrolyte should be filtered and reused. I recently opened my electrolyte recycle bucket and was surprised to see chlorate at the bottom. Actually, it was the amount that surprised me, about a quarter cup per gallon. This extra chlorate did not precipitate because of a lowering of the temperature (the temperature of the solution had not changed), as is the case when, for example, you put a solution in the freezer to crystallize KNO$_3$.

The formation and precipitation of more chlorate was due to a continuation of the chemical reaction listed in steps (3) through (5) in the Reaction Equations section, the reaction that does not require electricity.

Using the filter of your choice, decant the solution through the filter. The crystals that are left behind are then placed in a clean container and rinsed with a minimum amount of ice-cold water. The rinse water is then poured over the filter. The solution that was passed through the filter is then treated in one of two ways, as a single batch or semi-continuous.

**Single Batch:** If you run a single batch, then it's necessary to squeeze out every last drop of product. I don't do it this way, but if I did I would take the filtered solution and freeze it. After collecting the crystals, I might even be tempted to boil the solution down to the point of precipitating more crystals. The boiling would not be an efficient use of time and energy.

**Semi-Continuous:** The semi-continuous process takes advantage of work already performed by using recycled electrolyte. Again, you have the choice of freezing or not freezing the solution. It's less work not to freeze, so that's what I do.

Let the used electrolyte sit in a sealed container for a while so that the chemical reaction can continue. Mine sat for a couple months while I was out of production. I imagine a week would have been more than enough. You might even try adding a little potassium permanganate, KMnO$_4$, to help the reaction along. When you're ready to reuse it, decant the solution into another container and add KCl until no more will dissolve and it's ready to use. The chlorate that was left at the bottom of the recycle bucket can be recrystallized and used, or it can be put in the cell and turned into perchlorate.
Purifying the Product

Recrystallizing the product is very important, especially if you're collecting the perchlorate, or if you have copper contamination. Perchlorate is much less soluble than chlorate, which makes our job easy and assures us that our final product can be very pure.

**Recrystallization:** Assuming you ran the cell at the appropriate voltage for long enough time, the majority product will be perchlorate. If that's true, then simply dissolve the product in a minimum amount of very hot water (I use an old coffee pot for my hot water) and allow it to cool. The perchlorate will crystallize and the chlorate and some perchlorate will remain in solution. Rinse the product with ice-cold water. A slow, natural cooling will yield larger crystals than a fast cooling from putting the crystallization dish in an ice bath or freezer.

It is a good idea to recrystallize the product twice, and works whether you're purifying chlorate or perchlorate.
Optimization and Other Tidbits

The O₂ overpotential and the low deterioration make platinum the king of anode materials. It does, however, have a higher chlorine overpotential than graphite. Platinum loss does occur, in the amount of about 3 g/ton of perchlorate produced, most of which is due to impurities in the Pt itself. The glassy electrode is probably the second best, but it does have problems:

1. Like regular carbon, it has a higher deterioration rate, about 2300g/ton of perchlorate.
2. The O₂ production (from low O₂ overpotential) wastes electricity, lowering cell efficiency.
3. The C → CO₂ conversion itself requires electricity, also lowering cell efficiency.
4. Electrochemical reactions are slower at carbon electrodes of all types than at metal electrodes.

The less obvious, but more important weak link in the chain of efficiency is the power supply. One needs a potentiostat to maintain a constant voltage, first at ~3.3 volt for the chlorate production, then at ~6.4 volt for the perchlorate. There’s also an optimum current density on the electrodes, an optimum current for the cell so that too much chlorine is not produced and allowed to escape the cell with the hydrogen. Let's not forget electrode separation, there’s an optimal value to be found for that, too, and mechanical stirring to get that stuff moving around. One source reports an AC power requirement of 2 kWh/lbm (4.4 kWh/kg) of sodium perchlorate.

Voltage drop across the cell decreases with increasing temperature. These are some average experimental values (these values are are about 0.50 volts higher for bigger cells that have a larger electrode separation distance):

- 6.45 to 6.50 volts @ 85° F
- 5.00 to 5.26 volts @ 140° F

The potential drop across the cell is made up of a many smaller drops. The most important factors in the potential drop are:

1. Electrode spacing.
2. The type and concentration of salts in the electrolyte.

The potential drop across the cell is increased by:

1. Increased electrode spacing.
2. High concentration of perchlorate ion and low concentration of chlorate ion.
3. Higher anode current density.
4. Lower cell temperature.
Then you need a thermocouple for automatic temperature control, and a similar set up for pH control. One would also have better efficiency and no precipitation in the cell by starting with NaCl, using KCl only at the end to displace the Na$^+$ and regenerate the starting material. There is even an optimum NaCl concentration for the mother liquor that is less than the saturation concentration.

Calcium chloride or magnesium chloride will increase cell efficiency by decreasing the reduction of hypochlorite and chlorate at the cathode.

There is also the chromate versus permanganate question, both help, but I have not read any direct side-by-side comparisons. I think the chromate is better at buffering the solution and forming a complex around the cathode, but that the permanganate is better at helping the oxidation process. Anyway, the amount of chromate used varies from 0.5 g/L to 5.0 g/L in the form of Na$_2$Cr$_2$O$_7$. 
I'm a chemical engineer working at a Fortune 500 pharmaceutical company. If you need an idea for a science project, help with a problem at the plant, or are just curious about chemistry, electrochemistry, rocket fuels, or even a little carpentry, this is the web site you've been looking for.

**More Cool Chemistry and Physics**

**Recent Updates (12/26/99):** Cool Chemistry and Physics: 1.) Make a DC Motor, 2.) Make a Hero's Fountain, and 3.) Make a Siphon.

**Acids and Bases**

Some acid and base chemistry with a pH example problem.

**Anodizing Aluminum**

This is a description of several anodization methods used to treat aluminum to stop corrosion, generally known as passivation.

**Apex and Terminal Velocity**

A way to get a *rough* estimation of how high your rockets are going. I also have a height estimator from an old NASA page.

**Balancing Equations**

I wrote this for Adam, a young, would-be chemist that got roughed up by some of the grumpy old men on *news:sci.chem*.

**Basic Stair Building**

Years ago when I was a contractor, I had some carpenters that were good hammer slammers, but they couldn't layout a set of stairs. I wrote a stair building tutorial with a lot of illustrations for them.

**Building a Gambrel Roof Shed**

After I started engineering school, I made a few extra bucks by building these garage size sheds in a contractor friend's shop. We would haul them to the site on a trailer and assemble them on site. I even prebuilt the stairs to the attic.

**Charcoal**

Henry Ford wanted to find a use for the scrap wood left over from his auto manufacturing process, he came up with charcoal briquettes. Modern briquettes
use clay as a binder and aren’t useful in anything other than cooking cheeseburgers. Read how to make charcoal for use in water purification or as a reducing agent in your favorite rocket fuel.

**Chlorate and Perchlorate**

This is one of the most informative and easy to follow procedures for electrolytic synthesis of sodium and potassium chlorate and perchlorate available anywhere.

**Chocket Man**

A neat article on how a guy made a rocket fuel from motor oil.

**Cool Chemistry and Physics**

The ever expanding universe leaves a void that I try to fill with neat chemistry and physics experiments. Safe enough for kids, simple enough for parents.

**Corrosion**

A topic in electrochemistry that has economical importance and constantly challenges engineers is corrosion. This promises to be a good page when I finish it.

**DC Power Supply**

I needed a variable power supply for the experimenting I was doing with manufacturing chlorates and perchlorates, so I made this from a schematic I bought at Radio Shack.

**Dextrin**

Dextrin is a common rocket fuel binder that can be made from corn starch.

**Dust Explosions**

Read this before you write that next Hot Work Permit. One of the three big grain elevators near where I grew up has had two major dust explosions with one fatality. Any combustible material that is finely divided has the potential to cause a deadly dust explosion. In fact, a dust explosion caused the Lusitania to sink unusually fast and brought the US into World War I.

**Electrochemistry**

Everything you ever wanted to know about basic electrochemistry, but were afraid to ask. Includes Anodes & Cathodes, Sign Conventions, Galvanic & Electrolytic Rxns, Redox Couples, and how to use the Nernst Eqn. All with plenty of Confusion Inhibitor™.

**Electrostatic Hazards**

Electrostatic Discharge provides the ignition energy for many dust and vapor cloud explosions. Here are some of the basics of ESD, and how to work safely and obviate an accident in your plant.

**Gas and Vapor Flammability Hazards**
Basic flammable gas and solvent vapor safety.

Links to Other Sites

Catagorized links to pharmaceutical, HVAC, pyrotechnics, rocketry, HP48, engineering, electrochemistry, chemistry, hackers and network security, weightlifting, and wrestling web sites, and search engines.

Microbiologically Induced Corrosion

MIC can be a problem anywhere microbeasties come into contact with metal equipment, causing mechanical failure of the piping by corrosion and operational failure of piping systems by occlusion, especially in dry pre-action sprinkler systems. Future design criteria must obviate MIC, and existing sprinkler systems must be modified and maintained to remedy MIC.

Molarity

Common concentration units for dilute solutions.

Pictures

This is a collection of just a few of the illustrations I have put into the four little books that I have written for my children.

Potassium Persulfate

I made a special electrode assembly for the electrolytic synthesis of potassium persulfate, a very strong (albeit slow) oxidizing agent. Also, read about overpotentials.

Predicting Reactions

This is an introduction to predicting reactions with thermodynamics to tell if a reaction is likely to take place. I'm not real happy with it, but it's a good starting point. Famous quote, "Thermodynamics is God's way of making things happen, kinetics is His way of keeping things from happening all at once."

Saltpeter

Here are the solubilities for the fractional crystallization for making potassium nitrate from potassium chloride and sodium nitrate. The same principle that are outlined here can be applied to other salts as well. Includes phase diagrams.

Soap: Blubber to Bubbles

We bathe with it, brush our teeth with it, little boys avoid it. Here's some of the chemistry of fats and how to make soaps. The tricky part is making more soap than you use cleaning up the mess.

STM

My research at the University of Illinois partially dealt with the scanning tunneling microscope (STM) and atomic force microscope (AFM), so here's a quick little ditty on the subject.
Sundials
Before velcro was invented, kids had to tie their shoe laces, and before there were digital clocks, men used the sun to tell time.

The Walrus and the Carpenter
One of our favorite bedtime stories. Don't be fooled by strangers.

Comments & Complaints
If you like what you see, catch any mistakes, or have a subject that you would like to see, drop me a line. If you've got something that's interesting and practical that you would like to submit, by all means, send me (Mike) an e-mail.

since 2/21/99.
how could I make Acetic Anhydride. could i distill Acetic acid (vineger is 4% acetic acid I would have to have a shitload of it.), and would acetic acid evaporate before or after the water in it. if it would go before. then i could use a distilling apparatus, would plastic be able to handle pure Acetic acid.

if anybody has a file tell me and I will email you and you can reply to it.

thanks in advance

-------------
>> <> signature<> <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs. ;)
visit my website.
http://learn.to/makeexplo\vives
http://fun.to/makeexplo\vives
http://remember.to/makeexplo\vives
they are the same I just thought making those names would be fun

I will try to have the information up on my website by the end of the week. It is located in the synthesis section (first page and near top for now)

-------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

You'll never get anhydride by distilling vineger. You have to pass ketene gas through the glacial acetic acid to make anhydride. I can send you the process if you e-mail me your e-mail address. Send it to "nbk2k@yahoo.com"

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
I thought that acetic acid decomposes upon heating? The chem book I was looking at a couple days ago said so, but I don't know if it was accurate (or if I remember it correctly).
degrees C. This will react approximately 15-25% of the acetone into ketane. The vapors from the reactor is directed into the first bottle. The unreacted acetone will collect here. The ketane vapor will continue through the tubing to the next jar. The ketane vapors are absorbed here by the glacial acetic acid. These vapors are absorbed until the density of the liquid is 1.08 @ 20 degrees C. This is checked by a hydrometer placed in the glacial acetic acid. At the time this specific gravity is reached the material in the second jar is acetic anhydride. If glacial acetic acid is used from previous "E" process filtering then the acetic anhydride will need to be filtered to remove the remaining type "B" R.D.X.

CAUTION: Acetone is highly flammable. Great care is needed to ensure total absence of air in the reactor prior to injection of acetone. Failure to do this can result in an explosion. The whole reaction should be done with very good ventilation.

Hope this is informative.

------------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
Take 2.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

Fuck it. Here's the link to go get it.
http://www.50megs.com/nbk2000/weaponsandtactics/anhydride.jpg

You'll have to type in the link into your browser'cause my server doesn't allow linking from the forum apparently. Sorry about that.

In mega's method for concentrating acetic acid, at what temperature does the sulfuric acid and sodium acetate mixture break down?

Also, could this "glacial" acetic acid be used in the manufacture of RDX or does it have to be pure anhydrous?

Anhydrous.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: h2s04 and potassium nitrate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sharky</strong></td>
<td>posted September 02, 1999 06:09 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At what temperature does the mixture of h2so4 and potassium nitrate break down and form nitrogen dioxide?</td>
</tr>
<tr>
<td></td>
<td>thanks</td>
</tr>
<tr>
<td></td>
<td>sharky</td>
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<thead>
<tr>
<th><strong>Saiyan Knight</strong></th>
<th>posted September 03, 1999 08:13 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
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<tr>
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<td>I've seen it break down as low as 160 degrees. But when I make my Nitric acid, I like the potassium nitrate/sulfuric acid mixture to boil so the nitrogen dioxide will be produce more rapidly. Then I like to condense the gas with a homemade condenser to from Nitric acid.</td>
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<tr>
<th><strong>dlw daw</strong></th>
<th>posted September 03, 1999 12:08 PM</th>
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<tbody>
<tr>
<td>Frequent Poster</td>
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<tr>
<td></td>
<td>how do you make a homemade condenser, I have been trying to design one but it seems it wont work. would you have to make the inside(where the gas would flow) out of glass or not?</td>
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<td>&gt;&gt; &lt;&lt; signature &gt;&gt; &lt;&lt;</td>
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<td>this is the cops give me all your ...ahem.. books on making, ahem.. bombs.</td>
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<td>;) ;-)</td>
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<td>visit my website.</td>
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<td><a href="http://learn.to/makeexploables">http://learn.to/makeexploables</a></td>
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<td><a href="http://fun.to/makeexploables">http://fun.to/makeexploables</a></td>
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<tr>
<td></td>
<td><a href="http://remember.to/makeexploables">http://remember.to/makeexploables</a></td>
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<td></td>
<td>they are the same I just thought making those names would be fun</td>
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IP: Logged
Drill a hole in the bottom of a beaker, and push a long plastic tube through it. The tube can be coiled around inside to make more surface area. The rest of the tube can be connected to the sidearm or wherever the gas is coming from, and the other end drips into whatever is collecting the acid. When you wish to use it just fill it up with ice and water. I use a system like this, and it works really well 😊

Yeah you can use what jolly roger was saying to condense your own homeade alcohol. just boil the fermented "slop" and send the vapors through the tube and condense it for some easy homeade brew (this works good if you are under 21 and it is easy to make)

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Wouldn't the acid condense inside of the tube and eat through it after a while?

------------------
>>> > signature <<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:) ;()
visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

Jolly Roger, you couldn't use plastic tubing for condensing nitric acid. The nitrogen dioxide will easy eat through it. The type of condenser your talking about may be good for condensing some chemicals, but not all.
Saiyan Knight
Frequent Poster

posted September 03, 1999 07:51 PM

Dlw daw, the type of condenser I'm talking about is only good for condensing nitrogen dioxide into nitric acid. If this is what you are trying to condense, reply back and I will give you details for the homemade condenser and plus details for making strong nitric acid.

nbk2000
unregistered

posted September 05, 1999 02:00 PM

I made my condenser using a 4 foot length of 3/8" glass tubing, 4 rubber stoppers, 2 T pipe fittings and a 3 foot length of PVC pipe cut to size. The Condenser looks like this "==T==|>========T==" The stoppers are frozen overnight then drilled with holes slightly smaller than the glass tube diameter. You can also do it without drilling but it's easier this way. Lubricate the first stopper with KY (no vaseline, damages the rubber, then slid it over one end with the smallest end towards the middle "==|>=============". Have about 4-6" clear on the end. Then slid down the 3 foot PVC section with the T fittings attached. Snug it down on the stopper, then lube up the other stopper and slid it down (smallest end towards the middle) the other end and into the T fitting. The other 2 stoppers go into the T fittings to carry in your cooling water and drain the warm water out. Of course you can change the size to fit your needs. The principle is the same. And if you want to get fancy, you can use a clear plastic tube instead of PVC so you can watch. Check out my web site at "www.50megs.com/nbk2000". I'm adding content as quick as I can.

Saiyan Knight
Frequent Poster

posted September 05, 1999 03:34 PM

What gases have you condensed with your condenser.

dlw daw
Frequent Poster

posted September 05, 1999 04:34 PM

saiyen knight please tell me about it. and if I buy denautured ethyl alcohol, could I carefully boil it through the condenser and collect the alcohol, and have a some moonshine? also do you know if you can heat h2s04 untill white fumes come off, would this purify it?
Now the still/condenser I'm about to tell you how to make is only for making nitric acid. Place two parts by volume of dry potassium nitrate (or any PURIFIED nitrate mineral) into a narrow necked glass bottle or glass jug. Add one part by volume concentrated sulfuric acid to the bottle or jug. Do not fill the bottle or jug more than 1/4 full of the mixture. Stir the mixture with a thermometer in the bottle or jug or gently swish it around in the bottle to mix throughout. Obtain another glass bottle or jug roughly the same size as the previous but the exact mouth size. Align the mouths of the bottles or jugs together making sure they are flush together and with no air spaces. Tape together at the mouths with black, masking, or electrical tape, but not cellphone. Do not allow the mixture from the first bottle or jug to spill in the second bottle or jug. Support the bottles or jugs on rocks or cans so that the empty bottle or jug is SLIGHTLY lower than the bottle or jug containing the mixture so that the nitrogen dioxide that is formed will flow into the receiving bottle or jug. Build a fire in a frying pan. Gently heat the bottle or jug containing the mixture by moving the fire back and forth underneath the bottle or jug containing the mixture. As red fumes appear (nitrogen dioxide) periodically, pour ice cold water over the empty receiving bottle or jug. Nitric acid will began to form in the receiving bottle or jug. Do not overheat the bottle or jug containing the mixture or it may shatter. Continue the process until no more red fumes are formed. Unwrap the tape at the mouths of the bottles or jugs being careful not to spill the remaining mixture of potassium nitrate/sulfuric acid in the bottle or jug containing the nitric acid. Store nitric acid in a cool place with a acid resistance cap and away from sunlight. This acid is strong fuming nitric acid. It is suitable for nearly all explosive that need nitric acid with a high concentration including PETN and RDX. And for the denatured alcohol, distilling it and condensing it would not remove the denatured additive (methyl alcohol). And for the sulfuric acid, in order to concentrate it you will have to boil it until dense white fumes appear. You can tell when it is concentrated because it will pour slightly faster than motor oil and you can also tell if it is concentrated if you put a little drop on a match head. If the match head burst into flames (within 5-10 seconds) or comes very close to it, it is concentrated sulfuric acid.
In response to Saiyan Knights question I've used it to condense everything I've distilled. Mainly with alcohols and HCN. The best way to use this is to attach it to your distilling flask with a short length of flexible teflon tubing. This way your chemicals only touch inert materials.

As for dlwdaws question, you can't separate methyl and ethyl alcohol by distillation. These 2 chemicals form what's called an aze trope. That's techie for a compound that has a different boiling than the component chemicals. The idea of connecting 2 bottles together comes from the black book volume 1. It may work but why fuck around with that when you can use a distilling flask that costs 10 bucks and my homemade condenser that costs only another $10.

"The knowledge that they fear is a weapon to be used against them."

megalomania
Administrator

I was about 12 or so when I bought my first glass condenser at a hobby shop for only 10 bucks. that was a long time ago, however, and not many hobby shops still sell such things. Buying a real one may save you some hassle, but improvised ones are just as good. I once knew of a good website that went into great detail on making one, it seems to be gone now 😞 The simplest way is to coil several feet of rubber tubing into a bucket of ice water. A better way is to cut a hole in the bottom of the bucket so the condensed liquid can flow out easier. I have been thinking of making a very large capacity one using PVC tubing with a long fluorescent bulb tube inside (the liquid to be condensed goes through the glass and the PVC tube provides a cooling jacket. Copper tubing can also be substituted. I would not suggest using PVC type plastic for an inner tube as it provides too much insulation. All of these condensers necessitate the use of non-corrosive chemicals, acids and copper are a no no, the same for rubbers/plastics with organic compounds, glass is your best bet. Glass bulbs are the only cheap source of giant tubing, but it is very fragile. And you can't remove denaturants from ethyl alcohol without some extreme work, easier to make your own... If I could nail down a few 55 gallon plastic drums, I would put all my grass clippings to better use than fertilizer...

Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania
| **poison**  
Frequent Poster | ![Image] posted September 07, 1999 12:35 AM | -- | -- | -- |
| --- | --- | --- | --- | --- |
| How do you make moonshine i heard of using sugar and yeast and somthing but i never tryed it any ideas?  
-Poison | IP: Logged | --- | --- | --- |

| **nbk2000**  
Frequent Poster | ![Image] posted September 07, 1999 03:01 AM | -- | -- | -- |
| --- | --- | --- | --- | --- |
| Trying to make a condenser using a fluorescent tube is not a good idea. The tubes are coated inside with toxic phosphors and mercury. Plus, the glass is very fragile. Use regular glass tubing. It's a lot stronger and safer. You could use stainless steel tubing instead of copper for some acids, but glass is the best. As far as making alcohol, you can use plain sugar water and yeast. The only thing you have to remember is to boil the sugar water for about 10-15 minutes to kill all the bacteria, mold, and yeast germs that are already in it. Take it off the stove and pour it into a sterile bottle (sterilized by boiling at the same time in another pot)and plug it with cotton. After its cooled to room temp, add your yeast and plug it with cotton. The cotton keeps the solution sterile while allowing the free venting of the C02 produced by the fermenting mix.  

"The knowledge that they fear is a weapon to be used against them." | IP: Logged | --- | --- | --- |

| **Ho ju**  
Frequent Poster | ![Image] posted September 07, 1999 10:59 AM | -- | -- | -- |
| --- | --- | --- | --- | --- |
| na the cotton is not a good idea. You have to have a good seal. and when i mean good i mean air tight,. you can not allow the air (or specificly the o2 from the air) to get into the bottle. because with 02 the yeast produce no alcohol. they just go about the aerobic respiration. But without O2 they have to do things anaerobicly and this is when they produce the ethynol. i learned how to make alcohol in school. (in bio)  

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! | IP: Logged | --- | --- | --- |
Your forgetting that the CO2 produced by the yeast as it breaks down the sugar has to escape. If you put it in a sealed air-tight container the pressure will build up and possibly burst the container. And if it needs to be anaerobic (which it doesn't need to be), use a water trap made by taking a tube from the fermenting bottle and having it go to the bottom of another bottle filled with water. CO2 can vent but no air can get back in.

"The knowledge that they fear is a weapon to be used against them."

---

yes i know how to do this. just ask poison. i emailed him the plans yesterday. (the forum would not let me post so i emailed it to him) I learned all about this in biology my friend. The alcohol is a by product of the anaerobic respiration (so it has to be without O2) with O2 only glucose is made and in turn ATP. but no ethynol.

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

With O2 you will end up with acetic acid. As I don't do fermentation for drinking, all I need is a 2-Liter plastic pop bottle filled with sugar water and a hose in the cap (I use a stopper and a small bit of glass tubing) that runs into a bucket of water. You could go to the hardware store and buy some T connectors and have several bottles going at once. Stagger them to keep a good culture, in about 2 weeks you will have 10-12% alcohol.

I plan on using saw dust, you can aciduate the cellouse with sulfuric acid (only a 5% soln) and it will break down into sugar. If i get this to work I will have methyl alcohol, formaldehyde, acetic acid... this can of course be used to make enough hexamine to make enough RDX to make one hell of a hole. I use grass as an economical alternative to sugar, you could always start snagging sugar packets from fast food resturants :P

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
heh heh heh.
BOOOOMM.
heh.

uh-hum, sorry.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Re: thread that is closed - something to say</th>
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<tbody>
<tr>
<td><strong>ezekiel</strong></td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted September 06, 1999 01:43 PM</td>
</tr>
<tr>
<td></td>
<td>flouric acid is a really nasty one, I have never used it (probably for the best) but I expect it does do alien style dissolving. It can eat through many normal lab glass formulas and so must be handled in special glass or heavily diluted.</td>
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<td></td>
<td><strong><a href="mailto:ezekiel@cannabismail.com">ezekiel@cannabismail.com</a></strong></td>
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<td>&quot;Hitler bad, explosions good&quot;</td>
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<tr>
<td><strong>megalomania</strong></td>
<td>Administrator</td>
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<tr>
<td></td>
<td>posted September 14, 1999 06:46 AM</td>
</tr>
<tr>
<td></td>
<td>If you mean hydrofluoric acid, it eats glass and little else (cept flesh of course) thats why it can't be kept in glass bottles. One of my professors in analytical chem spoke of the horrors of HF burns, brutal, it penetrates the skin and eats at you from the inside so it can't be washed off... And an organic prof said only crazy chemists work with fluorine compounds.</td>
</tr>
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<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
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<tr>
<td><strong>ezekiel</strong></td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted September 15, 1999 01:35 PM</td>
</tr>
<tr>
<td></td>
<td>yeah, I did mean hydroflouric. nasty stuff. have you ever seen the experiment where a cigaret is lit with flourine? flourine and its compound are only really for the pros, or the ones with big masks.</td>
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</table>

All times are ET (US)
### Megalomania: What about that nitrogas explosive

#### dlw daw

**Frequent Poster**

**posted September 14, 1999 04:44 PM**

Hey mega have you tried that nitro gas explosive on your website. Seems very cool.

I can get all the stuff from a car, except for the NaNO3 or KNO3 to make the nitric acid out of sulfuric acid.

Mega does this work and is it somewhat safe (by safe I mean like C-4 or kinepak safe) to manufacture or is it dangerous (like nitro glycerin).

Thanks in advance.

Dennis

---------------------

If you can't make a mistake you can't make anything

- Marva Coolins

#### nbk2000

**Frequent Poster**

**posted September 14, 1999 06:53 PM**

I read in "The Chemistry of Powder and Explosives" that explosives like that (gasoline and nitric) were used in aereal bombs. The 2 chemicals were in separate sections and a screw would allow the 2 to mix in midair. The bombs didn't need detonators because they were so shock sensitive that they would explode on impact. So it would work, but it would probably be too dangerous for safe use. Unless you used it as a booby-trap type thing.

---------------------

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
Ho ju
Frequent Poster

posted September 14, 1999 06:58 PM

yes but how sensitive are the two when mixed? cause it would not be a problem if they required a big joilt cause a 300+ pound shell falling at terminal velocity can create quite an impact un itself. is it really shock sensitive or no?

---------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

Ezekiel
Frequent Poster

posted September 15, 1999 01:39 PM

aerial, not aireal.
sorry for being the pedant

IP: Logged

Megalomania
Administrator

posted September 15, 1999 02:58 PM

These explosives are EXTREMELY explosive. They are mixed only AFTER they are dropped as a bomb, think chemical weapon here... The components are kept in separate compartments and were then mixed while dropping. These need no detonator, the action of dropping does it.

---------------------

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IP: Logged

Megalomania
Administrator

posted September 15, 1999 03:02 PM

Excuse me, I meant to type EXTREMELY "sensitive" there, not safe to handle at all.

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IP: Logged
If you put this stuff premixed into a pipe bomb and dropped it at your feet, you probably wouldn't have any more feet. Think nitroglycerine sensitive. Great for boobytraps, but not so great for carrying around. Pop Quiz: what's an aerodrome (don't look in the dictionary)? I don't bother spell checking everything I type. So what.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
**Author**: dlw daw  
**Frequent Poster**

could I mix vinegar (acetic acid) with lead hydroxide (is there such a thing?) and make lead acetate. also does anybody know where to get magnesium stypnate?

and another thing where the hell can I get sodium azide, I want to make some homemade blasting caps. I want to make RDX as the booster (thus the question abou acetic anhydride) and use lead stypnate as the main initiator and lead azide as the secondary initiator.

to make this safer could I wet press this, like wet all of them in water and use my thumb to lightly press them in. first the RDX then the lead azide then lead stypnate.

and could i bunch some 1/8" cannon fuse to fit in a 1/4" Al. casing.

and a helpful hint the garbage bag ties when you strip the paper off of them they make great electric bridge wires. I caught a toothpick on fire after running the current through it for a couple of seconds. they work good.

-------------

If you cant make a mistake you cant make anything

- Marva Collins
You can get Sodium Azide from car airbags. It's a dark gray pellet(s) inside a metal screened disc. It's very flammable so be careful. If you can't find one in a junkyard, you could always rip one out of someones car! 😊 And as far as wet pressing primary explosives into the case with your fingers, DON'T DO IT! Too fucking dangerous. Besides which, if you press it in and seal it up, how's the stuff going to dry? It can't. You have to press it in dry. I used a heavy vise that I had modified by adding a block of wood with a hole drilled in the center to hold the cap. I would put the dowel in the cap, cap in the block, put a sandbag over the block, and slowly turn the vise handle till it couldn't go any further. That was probably putting some tons of pressure on the cap. The vise jaw that was free to move had a thick plywood sheet attached to it to deflect any shrapnel if the cap exploded (never happened though). You can get a suitable vise real cheap at harbour frieght tools. You want the big bastards.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

---

Sodium azide can be made by:

A) Hydrazine reacting with ethyl nitrite and sodium hydroxide in a solution of ethyl alcohol. The sodium azide is only slightly soluble in alcohol so it precipitates out. It is collected on a filter, washed with alcohol and dried.

B) Metallic sodium is melted at 300 °C then dry ammonia gas is bubbled in. The gas that is released is ammonia and hydrogen, this is bubbled into water and is explosive. The reaction is done when no more hydrogen is being released (the water absorbs the ammonia, the hydrogen passes on). This "sodamide" is then placed into a crucible or other vessel, the air is displaced by adding ammonia gas. It is heated to 230 °C and nitrous oxide (N₂O, laughing gas) is passed in while the sodamide is being stirred. This reaction forms sodium azide and water. The water in turn reacts with some sodamide and forms sodium hydroxide and ammonia. The reaction is complete when no more ammonia is released. The product contains and equal amount of sodium azide and sodium hydroxide. This can be dissolved in water and neutralized by nitric acid, this resulting neutral solution can be used directly to make lead azide. Pure sodium azide can be obtained by adding to alcohol, which dissolves only sodium hydroxide.

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You get lead acetate by neutralizing lead oxide with acetic acid. Lead oxide, yellow lead, or litharge may be at your plumbing store, it is used for pipes. I think you can make it by burning lead, I'm not really sure...

-------------
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-------------
what I mean by pressing with my thumb is take a long dowel and slightly push it in with the pressure from my thumb.

dennis

-------------
If you can't make a mistake you can't make anything

- Marva Collins
**ezekiel**  
Frequent Poster  

Aug 27, 1999 05:43 AM

Apart from things like hydrazine, what are good fuels to add to explosives? I know about ANFO and kinepak, but any other examples would be appreciated.  

Does anybody know exactly what is put into composition C, the oils, waxes and desensitisers?

---

**Survivor@netlimit.com**  
unregistered  

Aug 27, 1999 06:13 AM

Composition C:

- R. D. X. 88.3 %
- Heavy Mineral Oil 11.1 %
- Lecithin 0.6 %

/Survivor

---

**Jolly Roger**  
Frequent Poster  

Sep 13, 1999 06:12 PM

Yeah - no reason why not to, but I don't know what it would be like, any ideas anyone? Maybe some kind of AN Fuel Oil Solution????

Does anyone have a decent recipe for RDX?

---

**PryoTek**  
Frequent Poster  

Sep 13, 1999 06:31 PM

I think if u add kero to AN it makes it more sensitivise and eaiser to det 😁
<table>
<thead>
<tr>
<th><strong>PryoTek</strong></th>
<th>Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>posted September 14, 1999 04:43 AM</strong></td>
<td></td>
</tr>
<tr>
<td>If you add Kero to AN I think it makes the same As ANFO but is more sensitive and easier to det</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ho ju</strong></th>
<th>Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>posted September 14, 1999 03:47 PM</strong></td>
<td></td>
</tr>
<tr>
<td>would you still need a blasting cap to detonate the ANFO if it was made with kerosene?</td>
<td></td>
</tr>
</tbody>
</table>

--
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

<table>
<thead>
<tr>
<th><strong>dlw daw</strong></th>
<th>Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>posted September 14, 1999 04:29 PM</strong></td>
<td></td>
</tr>
<tr>
<td>hell yes you would , and it is still hard as hell to det. one thing I want to know is can you mix AN with gasoline to make a decent explosive?</td>
<td></td>
</tr>
</tbody>
</table>

--
If you cant make a mistake you cant make anything
- Marva Coolins

<table>
<thead>
<tr>
<th><strong>nbk2000</strong></th>
<th>Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>posted September 14, 1999 06:50 PM</strong></td>
<td></td>
</tr>
<tr>
<td>The black book series says you can substitute a 50/50 mix of gasoline and motor oil for the #2 diesel fuel. The total amount used is the same as the diesel. You can use 3-ethylhexyl nitrate instead of nitromethane. It costs about half as much as nitromethane. You might have a hard time finding, maybe not.</td>
<td></td>
</tr>
</tbody>
</table>

--
"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
dlwdaw, you can mix 94% AN with 6% Gasoline, this explosive will be slightly more cap sensitive than AN-fuel oil. One #8 cap will initiate detonation but a booster should be used to obtain maximum performance. Det vel 2700-4650 m/sec.

/ Survivor
Survivor@netlimit.com

Blaze
Frequent Poster

posted September 15, 1999 10:29 PM

The reason it's not used is the low ignition temp. and its volatile nature. It'll have be sealed up tight like you would with nitromethane.
Author  |  Topic: Aluminum Powder
---|---
Bandit  |  posted September 15, 1999 03:15 PM
Frequent Poster  |  Is there a easyish way to make aluminum powder im wanting to make themite i've got a chemical way to get iron oxide and 5th november's (like 4th of july for americans) comming soon so shit loads of sparkerlers.

nbk2000  |  posted September 15, 1999 03:27 PM
Frequent Poster  |  You can buy aluminum powder at an auto supply store. It's called "alumaseal". Small plastic bottle with about 20 grams of fine Al powder. Used to seal leaks in radiators. Costs about $2.75 where I'm at. Cheaper to buy it in bulk at a chemical supplier, but you can get it anytime from the store.

Ho_ju  |  posted September 15, 1999 04:00 PM
Frequent Poster  |  Bandit. you need to have SUPER FINE aluminum powder and SUPER FINE Fe2O3 to have the thermite work. i know a kid who tried to make this and light it with a magnesium strip and it didn't work. The powders were dust like (maybe a tad bigger) and it did not work.

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
nbk2000
Frequent Poster

You can use metals as course as coffee, but you need to use a better igniter than magnesium ribbon. A 3 parts chlorate/1 part sugar mix with a little alumaseal powder mixed in will do the trick. Use a paper tube filled with this mix and place it in the center of your thermite container. Fill the container up level with the top of the tube and pour a 1 inch layer on top of the thermite. Lit with fuse and you'll have a fire for sure.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

megalomania
Administrator

I have it on reasonable authority that the aluminum in radiator leak plugger contains mostly some kind of wheat product and only a small amount of course aluminum... I received an email from a person who works in such a factory.

I have this...

react aluminum foil with hydrochloric acid to make aluminum chloride. The aluminum chloride solution is then reacted with magnesium metal to make magnesium chloride and precipitating aluminum powder. The powder can be filtered to collect it and there you go 😊

This is a waste of magnesium if you ask me, of course I like to do Grignard reactions, if you don't do Grignard reactions, you can use all the magnesium you want 😊

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nbk2000
Frequent Poster

Why go through the hassle of making aluminum with magnesium? Magnesium is better than aluminum for thermite anyways. As for the alumaseal, I've never analyzed it so I don't know what all is in it. But it burns just fine. Could wash it on a filter with water to remove anything soluble.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
On Jay Leno, Leno had some demonstration scientist come on the show and among other things he brought thermite. Nothing spectacular about this except to ignite it he poured glycerine on the thermite which was in a few steel cups on a rack. Within a few seconds the thermite had taken fire; now would a simple iron oxide + metal thermite react the same way or had he added another ingredient for this reaction to occur? Potassium permanganate possibly?

Must have been a permanganate/metal mix. Are you sure they said glycerine? It could have been an acid poured on sugar/chlorate. That would work too.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Yes, the demonstration scientist indeed said glycerine.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: my nitric</th>
</tr>
</thead>
<tbody>
<tr>
<td>sharky</td>
<td>posted September 06, 1999 09:14 PM</td>
</tr>
<tr>
<td></td>
<td>I did the method of distilling nitric acid from sulfuric and KNO3 with the two bottles taped to each other.</td>
</tr>
<tr>
<td></td>
<td>But... my nitric acid is greenish yellow.... is this normal?</td>
</tr>
<tr>
<td></td>
<td>sharky</td>
</tr>
<tr>
<td>Feticidal Fantasy</td>
<td>posted September 07, 1999 12:20 PM</td>
</tr>
<tr>
<td></td>
<td>The gas that goes inbetween the two bottles is suppost to be a brownish-redish color.</td>
</tr>
<tr>
<td></td>
<td>Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.seduced.to/fuckyourmother">http://www.seduced.to/fuckyourmother</a></td>
</tr>
<tr>
<td>sharky</td>
<td>posted September 07, 1999 06:50 PM</td>
</tr>
<tr>
<td></td>
<td>Yes, the fumes were redish, but when it condensed in the other bottle it was a greenish liquid.</td>
</tr>
<tr>
<td></td>
<td>I put it on a penny and it started bubbling and made alot of NO2 and a geen-blue liquid was left. I assume it is some sort of nitric acid but I don't know why its green. Any ideas?</td>
</tr>
<tr>
<td></td>
<td>sharky</td>
</tr>
<tr>
<td>Username</td>
<td>Post Time</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>megalomania</td>
<td>posted September 14, 1999 06:26 AM</td>
</tr>
<tr>
<td>sharky</td>
<td>posted September 14, 1999 09:28 PM</td>
</tr>
<tr>
<td>mosaz</td>
<td>posted September 21, 1999 02:54 PM</td>
</tr>
<tr>
<td>Author</td>
<td>Topic: ammonium nitrate</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>john doe</td>
<td>What is the minimum amount of ammonium nitrate/nitro methane (annm) that will detonate? I'm also looking for some other cool ammonium nitrate recipes and how to light them off!</td>
</tr>
<tr>
<td>dlw daw</td>
<td>mistake HE doesn't light they detonate. and try annm plastique. mix 2 parts to one part NM to one part double base(bullseye) smokeless powder. stir then mix with 3 parts(I think) AN. I dont know. anybody is this right.</td>
</tr>
<tr>
<td>AlShoot</td>
<td>Minimum amount of annm is 430g of AN for 80g of NM. Else you can try nitroglycerin mixed with AN or any explosive : the AN will be easily detonate and will increase the explosive power</td>
</tr>
<tr>
<td>Dr-D</td>
<td>I have looked at fertilizers to find ones with a high amount of ammonium nitrate in them. The only ones i find are mixtures with a maxium of 5% ammoniumous nitrate in them. Where would I go about finding just the nitrate fertilizer? Also, what is the Fuel Oil in ANFO? gasoline or some other flammable liquid?</td>
</tr>
</tbody>
</table>
Fuel oil is a damn stupid name for diesel oil, as in the diesel that trucks and a precious few cars use as gas.

------------------------
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<table>
<thead>
<tr>
<th>Name</th>
<th>Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>john doe</td>
<td>Sep 22, 1999 08:00</td>
<td><em>what can be used as a detonater</em></td>
</tr>
<tr>
<td>Dr-D</td>
<td>Sep 22, 1999 08:30</td>
<td>Well, the fertilizers I have found are all mixes of phospurous, nitrates, and something else. Different ratios for different plants or something. The highest concentration of AN I have seen in these is 5%. That is way to little to try and get rid of the other crap. I also thought that water caused AN to react. Yet I have heard of removing coatings, and other things using water. So it may not affect it. Anyone know of a pure source of it (75% or more) and if so by what brand name? where at? Im getting desperate for some oxidizers here 😊</td>
</tr>
<tr>
<td>john doe</td>
<td>Sep 22, 1999 08:41</td>
<td><em>I get my AN from instant cold packs, inside the packets is a bag of water and a quarter cup of AN pearls.</em></td>
</tr>
</tbody>
</table>
| nbk2000      | Sep 23, 1999 07:29  | *You should be able to find pure AN at any ag supplier. Look under fertilizers in the phone book. Ask them for prilled AN, 32% nitrogen content or higher. It costs about $15 for a 50 lb sack. It's coated so you'll need to wash it before you use it. Put it in a can or bottle and cover it with enough water to fill in the spaces between the prills. Swirl it around for a few moments then pour it out through a strainer to collect the prills. The coating will have been removed and looks like mud. The mix gets freezing cold when you add the water but that's OK.*  

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
when you add AN to water, the water goes cold because of the separation in the water of the AN molecules (NH4+, NO3-). These ions are scotched to the water molecule. And this reaction needs energy to be. It's why the water becomes cold.

Dr-D
Frequent Poster

posted September 23, 1999 06:59 PM

Thanks, I'll check it out. As for adding the water, how do you remove it afterwards? Since AN is hygroscopic and soaks up water easily, how do you remove this water after you have washed it? Use the oven or a hair dryer or something I imagine? Or does AN burn when heated? (I would think not, because oxidizers need a fuel to react normally)

nbk2000
Frequent Poster

posted September 23, 1999 08:10 PM

You dry it in an oven at about 275-300 degrees F. Stir it occasionally so it all dries. It takes a few hours to be sure of complete drying. Bottle immediately after removing from the oven. The good thing about drying after washing is that the AN crumbles to a fine powder as it dehydrates. A quick once over through a sieve to remove any clumps and your good to go.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

PyroTek
Frequent Poster

posted September 23, 1999 11:30 PM

If u want AN just go an an big ag shop "grow force ,ag force ... will come in 50kg bags though
Since ammonium nitrate is hygroscopic, it is coated with an inert material in prilled form. This material has the added bonus of making ammonium nitrate less explosive. Since the coating is only partially soluble in water, and ammonium nitrate is very soluble, it can be removed for the most part. It is best to crush up the ammonium nitrate prills as much as possible to break the shell and use cold water. It is fortunate that the water gets cold, the solubility of the bad coating increases with higher temperatures, whereas AN is very soluble even in the cold. Stir it well and skim/filter to remove the undissolved coating. Take the AN solution water and boil it down to a slush. Pour this out into a shallow pan or dish, it must be shallow to remove the most moisture quickly. Place this in an oven at a gentle heat, AN will decompose if it is too high, you don't need to boil the water, just drive it off. 100 to 150 °F will do.

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what would be the best way to make HMTD, with citric acid or hydrochloric acid. the latter is easier to find (to me it is), and can the conc. of the peroxide be 3%.

I am planning on
making HMTD
with
3% H2O2
30% HCLO (is this the name for hydrochloric acid?)
and
hexamine.

also does anybody know a source for hexamine other than a chemical supplier. that is getting really hard to get nowadays.
the makeshit arsenal (http://go.to/explosives)
site says to use hydrochloric, but alchemists secrets says to use citric acid.
what would be the best ratios to make this with.

-------------------
>><< signature<<<<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
;) ;-) visit my website.
http://learn.to/makeexplosives
http://fun.to/makeexplosives
http://remember.to/makeexplosives
they are the same I just thought making those names would be fun

This recipe of HMTD calls for 6% hydrogen peroxide, but it may be possible to use twice as much 3% hydrogen peroxide. Measure out 9 teaspoons of hydrogen peroxide into a container. In 3 portions, dissolve 2.5 teaspoons of crushed hexamethylenetetramine (hexamine) in the hydrogen peroxide. Keep the solution cool for 30 minutes by placing container in a pan of cold water. In 5 portions, dissolve 4.5 teaspoons of crushed citric acid in the hexamine/hydrogen peroxide solution. Allow solution to stand at room temp. until solid particles form at the bottom of the container. Complete precipitation will take place in 8-24 hours. Filter the mixture through a paper towel into a container to collect the solid particles. Wash the solid particles (HMTD) collected in the paper towel with 6 teaspoons of water by poring the water over them. Discard the liquid in the container. Place HMTD in a container and allow to dry.
One more thing, Hexamine can be possibly obtained at the army and navy surplus were it is used as a fuel in mini camp stoves. It is a white solid sold in little cubes. It may be some what difficult to find these days because it is being replaced with trioxane fuel bars which are much cheaper.

could I use hydrochloric acid and what are the ratios if I use this way?

Yes, you can use Hydrochloric acid (HCl), I have used it many times. The procedure found at Makeshift Arsenal didn’t work well for me. Try this method, it has worked well for me and is simple, easy and quick. Dissolve 1 part by volume of hexamine in 2 parts by volume of H2O2 6% Leave this in the fridge for a while (15 minutes or so) to cool it down. If you are using small amounts (Tablespoons) then it isn’t really necessary. Then add 1 part by volume of HCl If you are using large amounts at a time, you might want to add the HCl a little bit at a time so it doesn’t get too hot. Then leave the mixture in the fridge for about a half hour and then rinse and dry. I have actually got better yields of HMTD this way, then with the usual citric acid, although it sometimes works differently for different people.

is the hexamine the stuff MRE’s use to cook the food with the water?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn’t pay. So if you know to much you will go broke!!
i'm planning on making some HMTD with citric acid is it the stuff home brewers use, also is there any safe ways of keeping it or is it safe enough. how do you detonate it is electric current enough or do you need a igniter. Cheers

Bandit

Ve He MT

Electric current?
Hehe
Please explain how and what explosives detonate from electric current (also how the current flows through a crystalline powder).
Heh

IP: Logged

nbk2000

You need a detonator for explosives. Get a bookz on making them at www.50megs.com/nbk2000/weaponsandtactics/kid.html. Here's a picture of the ones I make.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged

Take 2.

--------

http://theforum.virtualave.net/ubb/Forum1/HTML/000084.html (3 of 7) [12/6/1999 4:43:52 PM]
"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

**nbk2000**
Frequent Poster

posted September 16, 1999 07:39 PM

That fucking pop-up window keeps fucking me up.


---------------

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

**VeHe MT**
Frequent Poster

posted September 16, 1999 08:17 PM

hehe
:\
i saw it!
only cos i entered the address in my browser but i saw it!
hehe

**Bandit**
Frequent Poster

posted September 19, 1999 03:09 PM

Sorry what i meant was a piece of thin wire bent in a 'v' sorry when hooked up heat up a lot. I thought that would work because HMTD is meant to be sensitive and this heat produced would detonate it.

Bandit

**megalomania**
Administrator

posted September 20, 1999 03:32 AM

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**Blaze**
Frequent Poster

posted September 20, 1999 08:28 AM

The reason the pics wont work is that "50 megs" or whatever, wont allow pictures to be linked to different sites. There's nothing wrong with the code your using.
<table>
<thead>
<tr>
<th>User</th>
<th>Post Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbk2000</td>
<td>September 20, 1999 10:53 AM</td>
<td>Well I've posted it at another site so let's see if it works this time&lt;br&gt;<a href="http://www.freewellow.com/members7/nbk2000/det.jpg">http://www.freewellow.com/members7/nbk2000/det.jpg</a>.</td>
</tr>
<tr>
<td>nbk2000</td>
<td>September 20, 1999 10:54 AM</td>
<td><img src="image" alt="Image of a bolt with labels" /></td>
</tr>
</tbody>
</table>
| nbk2000      | September 20, 1999 10:55 AM | Finally! Thank God. At least now I know where to post my pictures at.  
"The knowledge that they fear is a weapon to be used against them."<br>www.50megs.com/nbk2000 |
| Ve He MT     | September 20, 1999 02:55 PM | ![Image of a box](image)                                              |
| Ve He MT     | September 20, 1999 02:57 PM | I hope that works now. I apologize now nbk for moving a copy to my webspace. That is if you didn't want me to heh. |
| nbk2000      | September 20, 1999 08:05 PM | Bah! i made big mistake there hehe, didnt see that a second page had started. my bad |
| nbk2000      | September 20, 1999 08:06 PM | The only thing I object to is that "XOOM" logo. Put up any picture other than an ad. We see enough of that as it is in life. I don't mind if people post my stuff on their site as long as they don't claim it as their own. Give credit or just say you found it elsewhere. Other than that I don't care.  
"The knowledge that they fear is a weapon to be used against them."<br>www.50megs.com/nbk2000 |
Ho ju
Frequent Poster

posted September 21, 1999 03:53 PM

yeah what the hell is up with the ad? i hate thoughs stupid little things. do nto put a picture just cause you can. do it if you need to.

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Ve He MT
Frequent Poster

posted September 21, 1999 07:26 PM

Uhmmm ho ju, i only put it up as to help because i hadnt seen that a second page of post's had been started and i thought i would help out by seeing if it would load off of my web space. I have no links to the image nor do i have any intentions of making any links to the image on my webpage. It was simply to see if it would load on the forum from my web space. nothing more.
Also the only reason i am with xoom is the FTP access and the unlimited webspace. I HATE webspace without FTP access.
Also ho ju u seem to be quite hostile.

IP: Logged

dlwdaw
Frequent Poster

posted September 21, 1999 08:22 PM

hey want to get rid of the xoom frames?

here do this.

replace {} with < >

{script}
parent.location.replace('http://members.xoom.com/_XOOM/username/index2.htm')
{/script}

put this on your index.htm page. then when somebody types http://members.xoom.com/_XOOM/username it will auto replace index(stupid xoom frames) with index2 it will have no frames.

go here http://members.xoom.com/_XOOM/dlwdaw
you will go to a page with no frames 😊

cool trick huh?
if you want other neat html or javascript tips email me.
dlwdaw@hotmail.com

dlwdaw

---------------------
HoK D iN FoNikzzz We Rkd feR Me.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>mosaz</td>
<td>posted September 21, 1999 03:10 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>ever heard about an explosive known as HNS? If yes any synth. for this. on the website I read about HNS they said it is stronger then HMX .. I don't know this is right but perhaps you know it.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>AlShoot</td>
<td>posted September 22, 1999 01:14 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I only know that HNS is sometime used by the army as explosive in the cartridge for artillery shells</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted September 24, 1999 03:02 PM</td>
</tr>
<tr>
<td>Administrator</td>
<td>Could you tell which web site you saw it on?</td>
</tr>
<tr>
<td></td>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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<tr>
<td>megalomania</td>
<td>posted September 24, 1999 03:02 PM</td>
</tr>
<tr>
<td>Administrator</td>
<td>Could you tell us which web site you saw it on?</td>
</tr>
<tr>
<td></td>
<td>---------------------------</td>
</tr>
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<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>mosaz</td>
<td>posted September 24, 1999 03:35 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Sorry!! But I think it was a german website.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
</tbody>
</table>
Ve He MT
Frequent Poster

posted September 25, 1999 12:06 AM

Im sure you can translate some =]
Heh

All times are ET (US)

Administrative Options: Close Topic | Archive/Move | Delete Topic

Hop to:

Contact Us | The Forum

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: comet</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-kay</td>
<td>posted September 26, 1999 01:22 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
</tbody>
</table>

| Bandit       | posted September 26, 1999 01:36 PM | no, what happens is the plastic nosel melts, then it causes a fire ball are like a bunsen burner. How would you put a fuse in the can anyway? |
| Frequent Poster |             | Bandit |

| megalomania  | posted September 27, 1999 05:04 PM | You will need some sort of explosive charge to burst the cans and ignite the flammable fuel inside. It sounds as if a propane tank would work better for this design. The matal casing provides some shrapnal, placing the canister in a bucket then filling that bucket with metal bits would be a quick way to increase the fragmentary effects of the blast. You might be able to get away with a bottle full of gasoline strapped in the middle of the canisters, a fuse goes in the gas to provide a detonation. |
| Administrator |             | Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |

All times are ET (US)
A New Voice

Greetings

Some of you may remember me from a while ago when Lowry's Makeshift Arsenal board was running as 'Fulgore'

I lost interest after he went missing and the board started to go 'stale'. I have just found the makeshift arsenal board again, but Lowry's e-mail address was missing! If anyone has this address it would be great if you could e-mail to me at robzie@hotmail.com

Thankyou,
r3b3l aka Fulgore

Contacting Lowry - The Explosives and Weapons Forum

All times are ET (US)
The Explosives and Weapons Forum

 UBFFriend: Email This Page to Someone!

To Meg.. - The Explosives and Weapons Forum

Post New Topic Post Reply

Author Topic: To Meg..
p0rNs7aR Frequent Poster

posted September 28, 1999 04:33 PM

hey man.... k is there a site online that will describe lab techniques?? chemistry is becoming a hobby of mine.... also where do you get your glassware from?

--------------
THE P-STER
(.
( (  \\
( / )

IP: Logged

All times are ET (US)

Administrative Options: Close Topic | Archive/Move | Delete Topic

Post New Topic Post Reply

Hop to: Go

Contact Us | The Forum

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: help me</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>d-kay</strong></td>
<td>posted September 26, 1999 11:40 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>[Post Reply]</td>
</tr>
<tr>
<td></td>
<td>Please help me. I'm a total explosive virgin. I have little knowledge on chemicals and have no real equipment. Is there something out there you can just shove a fuse in and light causing a decent explosion.</td>
</tr>
<tr>
<td></td>
<td>D-kay</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: help me</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AlShoot</strong></td>
<td>posted September 26, 1999 01:34 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>[Post Reply]</td>
</tr>
<tr>
<td></td>
<td>Something is horrible: people who come here and ask how to make an explosive with no material, no stuff, no money and i hope not to be the only one !!!!!!!!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: help me</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Igenx</strong></td>
<td>posted September 26, 1999 05:07 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>[Post Reply]</td>
</tr>
<tr>
<td></td>
<td>Try getting a job!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: help me</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>dlw daw</strong></td>
<td>posted September 26, 1999 06:52 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>[Post Reply]</td>
</tr>
<tr>
<td></td>
<td>- a pipe bomb(with LE)</td>
</tr>
<tr>
<td></td>
<td>- AP putty</td>
</tr>
<tr>
<td></td>
<td>- HMTD putty</td>
</tr>
<tr>
<td></td>
<td>- AP</td>
</tr>
<tr>
<td></td>
<td>- HMTD</td>
</tr>
<tr>
<td></td>
<td>- KCLO3/sugar</td>
</tr>
<tr>
<td></td>
<td>- a blasting cap</td>
</tr>
</tbody>
</table>

IP: Logged
HookD iN FoNikzzz WeRkd feR Me.

Impervise
i think that is how u speel it 😊

d-kay... oh my god. if you do not know that BP inside a pipe that is sealed deflagrates i feel sorry for you. how old are you?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: AN aluminum/ap</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sharky</strong></td>
<td><strong>posted September 19, 1999 04:46 PM</strong>&lt;br&gt;Has anyone ever had any success detonating a AN/aluminum mix with AP?&lt;br&gt;If you have could you please give the info on how you did it..&lt;br&gt;thanks&lt;br&gt;sharky</td>
</tr>
<tr>
<td><strong>john doe</strong></td>
<td><strong>posted September 23, 1999 02:10 PM</strong>&lt;br&gt;I've made acetone peroxide before and packed it into and spent shell casing. I ran a time fuse into the end and crimped it shut. I set this little bugger under a coffe can and it ripped the shell casing, and the coffe can apart, but I haven't tried to detonate AN with it. I have most of the materials I need so I'll give it a shot and let you know.</td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td><strong>posted September 23, 1999 08:15 PM</strong>&lt;br&gt;I detonated a soup can of ANFO using a .308 rifle shell packed with picric acid (from aspirin) and AP. The ANFO blew up but it was an incomplete I think since there was some unexploded ANFO stuck on nearby rocks. It did detonate at least partially though since there was a small plate sized crater where the can was.&lt;br&gt;&lt;br&gt;&quot;The knowledge that they fear is a weapon to be used against them.&quot;&lt;br&gt;<a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td><strong>AIShoot</strong></td>
<td><strong>posted September 24, 1999 04:15 PM</strong>&lt;br&gt;I have already made explosive (like ANFO or plastic) detonate and I had a partial detonation. I don't know what it is due to.</td>
</tr>
</tbody>
</table>
Ho ju
Frequent Poster

how do you get picric acid from aspirin? what are its uses?
-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

I wont go into detail right now but.

you get some aspirin the cheap kind is more pure with less additives so it is the best. you purify the aspirin by crushing and mixing with alcohol. this should leave pure aspirin.
evaporate the alcohol.
add some KNO3(or NaNO3), or is it H2SO4. I cant remember which goes first.
then add the H2SO4, or KNO3 I cant remember what order.
evaporate. purify.
I will type the recipe up tomarro I hope.

dont try this I dont know the proportions or anything I dont want to look in my book right now..

 nbk2000 could you give us a detailed procedure. and what safety procedures did you use. I hear it is highly toxic.

and the uses are:

mix with petroleum jelly to make a plastic explosive.

put in a pipe for bomb

make blasting caps with it in place of the booster(RDX or PETN)

I think this is one of the most powerful explosive you can make with household ingredients.

sulfuric acid(battery acid boiled untill dense white fumes come off)

KNO3 or NaNO3 (fertiliser, I bought some NaNO3 fertiliser under the name nitrate of soda. it was about 1.25$(US) a pound)

aspirin (the best place is dollar store because it is cheap and has less additives)

alcohol (drug store)

following this would be TCAP. i can find all the neccessary ingredients.

using TCAP and picric acid that would be one easy blasing cap.
HookD iN FoNikzzz We Rkd feR Me.

---

**dlw daw**
Frequent Poster

posted September 26, 1999 08:33 PM

Oops you have to filter and remove the solids that remain, then evaporate. That leaves pure aspirin.

---

**nbk2000**
Frequent Poster

posted September 26, 1999 10:36 PM

Go to my website at [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000) and look in the explosives section/kitchen improvised detonators. It explains how to make picric acid and many other primary explosives. Then look at the Kitchen Improvised Plastic Explosives. That will tell you how to make plastique with picric acid.

---

"The knowledge that they fear is a weapon to be used against them."

---

**megalomania**
Administrator

posted September 27, 1999 04:58 PM

Goto my website at [http://surf.to/megalomania](http://surf.to/megalomania) and you will find 3 different methods of preparing picric acid as well as some uses for the stuff. Or if you prefer, go to [http://nettrash.com/users/megalomania/picric_acid.html](http://nettrash.com/users/megalomania/picric_acid.html) directly and see for yourself. The third procedure uses aspirin tablets. This lab was recently updated and has been finished by the Great Edit.

---

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

---

**dlw daw**
Frequent Poster

posted September 27, 1999 07:11 PM

What is great edit??
Also do you have anyone else working in your lab.
I like to work alone because everyone I know are total idiots.

---

dont quote me, dont try this, and correct me if I'm wrong.
Ho ju
Frequent Poster

working with another person (who you would trust with your life) is a GREAT!!!!!!!! benefit for anyone. they can notice things you do wrong and could save limbs or even your life. i would suggest having someone look over anything you make, so you have a second opinion on safety and shit like that.

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

poison
Frequent Poster

That is a good idea Hojo but again every one I have tried to work with were totaly idiots.
It would be nice yet but most of the people do not live in my area
-Poison

dlwdaw
Frequent Poster

hey poisen doesnt it suck.
every body I try to work with are complete fucking IDIOTS.
anybody here live in Arlington Va. maybe I could work with you.

------------------
dont quote me, dont try this, and correct me if I'm wrong.

poison
Frequent Poster

Yeah it does people like that should be shot. Sadly i do not live there.
-Poison

IP: Logged

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Unfortunately your assuming that the person your working with not only knows what their doing, but that they don't make any mistakes. If you make a mistake, the only person you'll kill is yourself. But if someone else makes a mistake, not only are they dead, but so are you through no fault of your own. I don't know about you guys, but if I'm going to die I'd just as soon it be my own fuckup and not someone else's.

And there's always the snitch factor. What if the other person gets in trouble? Can you really be sure that he won't tell the cops about what you're doing? Best to just go solo.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

--------

dlwdaw
Frequent Poster

that's what I'm worried about.

of course i can't make a mistake because I'm me 😁 just kidding. but I would rather be making something and kill myself then have someone else kill me.
also like nbk said they will tell on you if they get caught. I like to work alone. unless I could find somebody that was truly my friend and knew what he/she was doing. anyone like that in arlington Va???

--------

dont quote me, don't try this, and correct me if I'm wrong.

--------

megolomania
Administrator

It is always nice to use the buddy system while in the lab, one can keep the other out of trouble. I tend to enlist the assistance of unwitting rubes in my endeavors, you would be suprised at the vast number of people who's eyes glaze over at the sound of full chemical names and reactions, never a mention of what I am making though. If you are confident in your abilities, you can go it alone, you don't really need two people to DO a chemical synthesis. Whom do you trust?

The "Great Edit" is what I have dubbed the massive re-evaluation of all of the explosive labs on my site. It includes double checking with all reference material to insure accuracy, spell checking, grammar editing, page formatting, graphic making, and cross linking. It has taken me way too damn long, but I am almost done, only 7 more to go, probably be finished by November for sure. Then I can add more stuff. I like to assign project names to my site, do things in order, the Great Edit is just what it says. Once the Great Edit is done, I will be overhauling the appearance of the sight, make the content less buried, easier to navigate. You can read all about it and check my progress on the

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Zekeiel
Frequent Poster

posted September 28, 1999 11:52 AM

Picric acid is beat made into ammonium picrate, then mixed with an eqaual molar ammount of ammouninum nitrate.

Ve He MT
Frequent Poster

posted September 28, 1999 02:45 PM

Working in 2's depends upon two factors.
1) They are knoledgeable in the subject
2) and trustworthiness

The problem dlwdaw and poison is most likely that you are assuming they are an exact replica of you, and that they know everything you know. The only way to get rid of this situation is to a) work alone; or b) Teach them from the ground up, people have to start somewhere. You must realise they lack the experiences and knowledge you retain, therefore if you ever want to work with someone they must know what you are doing to be effective. simply classifying someone as a fucking idiot and not working with them doesn't solve the problem. It may be the easiest way to go about it but if you have any real intention's on working with a partner then you have to start somewhere. Im not saying that you should just let the person jump in and start making every explosive known to man. You need to teach them everything from the bottem up. All the chemistry and physics related to explosives etc..

Ho ju
Frequent Poster

posted September 28, 1999 07:45 PM

Like i said you have to trust your partner with you life. and you also have to be COMPLETELY sure that he/she will not snitch. i have only found one person like this. these people are damn hard to find.

-------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

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All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: GOWD</th>
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<tbody>
<tr>
<td>p0rNs7aR</td>
<td>posted September 28, 1999 09:26 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

k the GUILD OF WEAPONS DESIGN is on the go.... for more info e-mail me... p0rns74r@yahoo.com it will eliminate the need for all these pages... they could all be located on one server.... and all the info could be interlinked... and there are alot more features... so if you want in or want more info lemme know... e-mail me!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: hexamine</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlw daw</td>
<td>posted September 26, 1999 08:50 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>what is the chemical formula for hexamine (like NaNO3 for sodium nitrate, KNO3 for potassium nitrate, KCLO3 for potassium chlorate)</td>
</tr>
<tr>
<td></td>
<td>and where can I get it. I looked for it at gunshows, ranger surplus, walmart, kmart, etc. I cant find it. I still have 2 places to check.</td>
</tr>
<tr>
<td></td>
<td>an andale surplus.</td>
</tr>
<tr>
<td></td>
<td>and the boy scout place casual adventures</td>
</tr>
<tr>
<td></td>
<td>also where can I find citric acid. I hear it is in the home canning section of your grocery store. but its the 90's there is no home canning section, is there?</td>
</tr>
<tr>
<td></td>
<td>also what is the ratio for HMTD with the HCLO version. and would 3% H2O2 work??</td>
</tr>
<tr>
<td></td>
<td>if not where would I get the 30% thanks</td>
</tr>
<tr>
<td></td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>dont quote me, dont try this, and correct me if I'm wrong.</td>
</tr>
<tr>
<td>poison</td>
<td>posted September 27, 1999 12:41 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>For hexamine <a href="http://www.afmo.com">http://www.afmo.com</a> . For the citric acid you can order it from pyrotek <a href="http://www.pyrotek.org">http://www.pyrotek.org</a> I never bother with the citric acid I used HCL. For the peroxide yes you can use 3% H2O2 just use 10x as much as you would 30%. Ex. 3ml of 30% = 30ml of 3%.</td>
</tr>
<tr>
<td></td>
<td>-Poison</td>
</tr>
</tbody>
</table>

IP: [Logged](#)
dlw daw  
Frequent Poster

posted September 27, 1999 01:26 PM

Sorry for the misunderstanding. I want a place that is not mailorder.
If I wanted to mailorder I could make RDX, HMTD, kinepak, etc.
I would really like to order by mail but I am still under my parents supervision (I'm not 18 or 21). So I can only get hexamine from a surplus store. My dad likes military surplus so that shouldnt be a problem. But I still want to know an ordinary place to buy it.

The citric acid shouldnt be a problem either. My mom wants to order some sodium silicate from pyrotek. She wants to use it to make masks that will last a long time.
I have a chem. set that uses citric acid, it has it in very small quantities like 50mg, but I think I will be able to convince her to buy me some citric acid.

Also anyone know a common place to buy citric acid.
Cerocool (one of my online friends) said he used store brand koolaid to make HMTD he said he bought a 9 gram packet and it had about 7g. of citric acid. He also said the stuff worked fine.
I got to get some koolaid.
www.imsplus.com also sells hexamine
and fuse and tear gas and gas masks and paintball stuff. And darts for blow gun.

-----------------
Dont quote me, dont try this, and correct me if I'm wrong.

Ve He MT  
Frequent Poster

posted September 27, 1999 01:37 PM

I have been lucky in finding both hexamine and citric acid from local stores. Surplus stores almost always carry hexamine, although they are slowly converting to trioxane, I think thats what its called, I simply cant remember now. I bought 48 hexamine tablets from a local hardware store in their camping section. They were sold by a company called Coghlan's, but this company may only be selling stuff in Canada (where I live =)].
For the citric acid I found it at a Pharmacy.
The Pharmacy I found it at was called Guardian Drug's (again possibly only a Canadian chain). It was under the section where they also sold Potassium Nitrate, Glycerine, 3% Hydrogen Peroxide and Camomile lotion. They were all made by the same company.
Hope that helped

~ VeHeMT
Ve He MT
Frequent Poster

I would avoid using impure chemicals when making a peroxide. There very well may be 7g's of citric acid in that koolaid, but then there is 2 g's of impurities which is a no-no for peroxide's.

megalomania
Administrator

The availability of hexamine and citric acid is highly dependant on your area. I have looked for both compounds at several stores with no luck. Neither chemical is all that exotic, so many mail order chemical companies do have it. Yes, grocery stores do have canning sections to cater to the needs of those evil enough to dare grow their own food and cut the Corporation out of the loop. the citric acid is a preservative, a brewers shop would have some. Of course, hexamine can be made by reacting ammonia (just the grocery store kind) with formaldehyde. Formaldehyde can be purchased from certain stores as either a mildewcide (kills mildew) or as an odor reducer for reactional vehicles (for RV toilets). There is not all that much formaldehyde out there, but probably more than there is of hexamine 😏 It is rumored Home Depot has the mildewcide (may be listed as paraformaldehyde) and Wal Mart has the toilet stuff (with a dark blue stain that may or may not affect the reactions). I'm still figuring out how i can make formaldehyde from sawdust (how they used to do it before synthetic methods).

Hexamine, I prefer methenamine, aka Urotropin, hexamethylenetetramine, or Ammoform, has the formula C₆H₁₂N₄
it is a white crystalline powder that burns, of course. The chemical structure is quite odd, imagine 4 nitrogen atoms, each nitrogen atom is bonded to 3 carbon atoms, each of those carbons is bonded to another nitrogen. It takes on the shape of a cube sorta. I have a graphic at my website I believe.

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<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
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</table>
| dlwdaw           | posted September 27, 1999 03:59 PM | megalomania where do you live. I live in Arlington, VA. I want to know so I can see if the availability of our chemicals are the same. thanks ---------
|                  |                               | dont quote me, don't try this, and correct me if I'm wrong.             |
| Nitrochem        | posted September 28, 1999 03:52 PM | the trioxane VeHeMT is complaining about may help here. trioxane is the cyclic polymer of formaldehyde (metaformaldehyde). It should be possible to make a formaldehyde sol by dissolving it in very hot water (I'm not sure about this one) but it could definitely be made by decomposing the solid by heat and bubbling the formaldehyde gas through water, or hell, right through the ammonia. |
| john doe         | posted September 28, 1999 09:29 PM | I found hexamine in an old camp stove in my garage, it was an esbit stove from Fred Meyer. The thing must be ten years old so I'm not sure if they would still carry them or not 😐 |

All times are ET (US)
I just posted a new page on my site about making explosives and propellants from military surplus smokeless powder. And even how to make it from scratch from drug store cotton. Go to http://www.50megs.com/nbk2000/weaponsandtactics/guncotton.html. Have fun with this. If you need somewhere to buy the powder from call 330-833-4360 or 330-832-3843. Cheapest is WC 872 Mag rifle $22 for 8lbs + hazardous shipping (usually $15)

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"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
<table>
<thead>
<tr>
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<th>Topic: Official Organization</th>
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<tbody>
<tr>
<td><strong>Ho ju</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted September 27, 1999 07:48 PM</td>
</tr>
<tr>
<td></td>
<td>Does anyone else think that we should create an Organization complete with a name, pres and vice pres? have meetings and shit like that?</td>
</tr>
<tr>
<td></td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Official Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>nbk2000</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted September 27, 1999 07:57 PM</td>
</tr>
<tr>
<td></td>
<td>In california any meeting or organization of 2 or more people for the purpose of paramilitary or weapons training is considered a criminal conspiracy and a felony that will get you in prison. And the way the Feds are, you can expect the same. The internet is the only safe way to meet. Anything else is an invitation to a prison cell. And since most people here are teenagers, meetings across state lines are a no go.</td>
</tr>
<tr>
<td></td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
</tbody>
</table>
let me clear this up. ONLINE meetings!!! not in real life are you nuts.

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

I figured that much out already. I'm letting you know what the government thinks about things like this though. They do not like it one bit. In person is definitly a crime, and I wouldn't be surprised if online was too.

If I person who posts to this forum went bonkers and blew up someone, when the cops examine his computer and see where he's been, what do you think they're going to do? They'll subpoena the ISP log records and see where everyone else who posts here is at. In case you didn't know this, look at the lower right hand corner of every post here. See where it says "IP logged"? What do you think that is? It's your address, that's what it is. Unless your religously using a proxy, they got you cold.

It may not be illegal to chat about these things over the internet (yet), you can be sure of guilt by association. If someone here does something that gets the cops attention you could end up getting a visit from your local police. Wouldn't that be fun. Especially trying to explain your posts.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

First of all even if your browsing threw 50 proxys they can still git you. All they have to do is run a simple trace route program. If the cops git attention to this board were pretty much all screwed period. IRC can still git you traced even easyer might I add.
-Poison
Fortunately for the time being we are able to discuss the theoretical aspects of weapons and explosives all we want. An open declaration that you have made or intend to make an explosive is illegal if you are not licensed with the proper authorities. If your licensed, no problem. If your speaking in theory, no problem.

Although UBB does log all the IP addresses, they are restricted to my eyes only, and I don't keep the logs. If the police ever try any harassment bullshit with this site, everything will be conveniently deleted.

The police can and will use posts, emails, etc. against you...if they can get the necessary subpeonas and court orders, then they still have to track you down. And we are all pretty anonymous here.

-------------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Bonjour,

Je voudrais savoir à quoi peut servir une matière solide granuleuse jaune contenant des polyacrylates, carbonate de calcium, sulfate de calcium… ?

What the fuck!

"Hello, I would like to know what is a yellow granulous solid matter containing polyacrylates, calcium carbonate, and calcium sulphate?" That's what I translate it to mean. But WTF is up with the french? Someone is getting silly with a translation engine 'cause no one else here is speaking french. Reveal yourself prankster.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Yes nbk, your translation is correct. Unfortunately I have no answer to the question but just so you know I can speak French since in Canada we are taught both English and French.
<table>
<thead>
<tr>
<th>Poster</th>
<th>Date and Time</th>
<th>Message</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ve He MT</td>
<td>September 30, 1999 12:49 PM</td>
<td>I don't think they are a prankster though. Gdom, savez-vous que la majorité des personnes ici seulement parlez en Anglais? Ou avez-vous trouvé cette poudre?</td>
<td>Logged</td>
</tr>
<tr>
<td>AlShoot</td>
<td>October 02, 1999 10:28 AM</td>
<td>Je parle français. D'où viens-tu Gdom et VeHeMt par la même occasion?</td>
<td>Logged</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>October 02, 1999 02:26 PM</td>
<td>Dans le Canada = ]</td>
<td>Logged</td>
</tr>
</tbody>
</table>
| Ho ju         | October 02, 1999 11:12 PM  | aaaaahhhhhhhhhhhhh i hate any foreign talk it pisses me off to no end!!!!!!! the people are ok but there talk fucks with my brain and i do not like it one bit!!!!
-----------------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! | Logged      |
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: paraformaldehyde</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sharky</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>posted September 29, 1999 08:02 PM</td>
</tr>
<tr>
<td></td>
<td>What is the difference between para and just plain formaldehyde?</td>
</tr>
<tr>
<td></td>
<td>Also, where can you get para?</td>
</tr>
<tr>
<td></td>
<td>thanks</td>
</tr>
</tbody>
</table>

<table>
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<tr>
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<tr>
<td><strong>nbk2000</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>posted September 30, 1999 02:22 AM</td>
</tr>
<tr>
<td></td>
<td>Paraformaldehyde is just formaldehyde without the water. Add paraformaldehyde to water and you get formaldehyde.</td>
</tr>
<tr>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
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</tbody>
</table>

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<tr>
<td><strong>megalomania</strong></td>
<td></td>
</tr>
<tr>
<td>Administrator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>posted September 30, 1999 02:24 AM</td>
</tr>
<tr>
<td></td>
<td>Paraformaldehyde is the polymerized version of formaldehyde. If you let formaldehyde sit around for a long time, it will eventually become paraformaldehyde. Paraformaldehyde is more stable, but is easily broken back to formaldehyde by a little heat. The reason you get paraformaldehyde in stores is the stability factor, it is just easier to sell then fighting with formaldehyde to keep it from polymerizing.</td>
</tr>
<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
</tbody>
</table>
Anyone know of a type of store that sells this? I don't think that a taxidermy shop would be a good place to get this stuff. I seem to remember that is is is used in camper toilets- any brand names or stores that sell this stuff?

are there any uses for formaldehyde besides preservation?
-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Formaldehyde is used as an antiseptic and enter in the composition of many products in parapharmacy (beta-cyclon......)

so there is not practicel use for it bomb making wise?
-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

if you mix formaldehyde with ammonia then evaporate it you supposedly get hexamine.
-------------------
dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Paraformaldehyde is used to make RDX, in combination with ammonium nitrate and acetic anhydride. I'll post the process here later tonight. It's taken from "Kitchen Improvised Plastic Explosives Volume 2".

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

This process was developed by the Germans initially prior to WWII. It is still in use today for the manufacture of Type B R.D.X. Military specifications for C4 call for type B R.D.X. This is due to the higher performance of this grade. 10% of the final product is H.M.X. It has much more power than the R.D.X. component in the final product of the "E" process.

The basis for this process is the ease of manufacture of the R.D.X.. Acetic anhydride, ammonium nitrate and paraformaldehyde. Acetic anhydride is a very common industrial chemical and at the time of this writing can be purchased for $220.00 per 398 lbs. Ammonium nitrate is available as a common fertilizer. It's cost is approximately $7.00 for 50 lbs. in it's fertilizer form. Paraformaldehyde is available as another common industrial chemical. It is also possible to evaporate the 37% aqueous formaldehyde solution to dryness to obtain paraformaldehyde. Paraformaldehyde costs at the time of writing around sixty cents per pound. Thus it is feasible to make home C4 for under four dollars per pound.

This process is very simple and requires a minimum of equipment.

This is also a very safe process if the instructions are followed and the fumes produced by the reaction mixture avoided.

PROCESS: Place 260 ml acetic anhydride in a one gallon jar. To this add 105 grams of ammonium nitrate in the acetic anhydride. This is placed in a pan partially filled with cooking oil. This is heated to 70-90 degrees C. After reaching this temperature begin an addition of 38 grams of paraformaldehyde. This addition is done in four 9.5 gram portions.
CAUTION: This addition will produce fumes that are hazardous and flammable. This should be done with very good ventilation. Paraformaldehyde is a cancer causing agent. A mask and gloves should be worn while handling it. Acetic anhydride and its vapor are hazardous and all contact should be avoided. It is caustic and very flammable.

Allow the reaction to subside before the next addition. After all the additions have been made, take the reaction vessel out of the oil bath and allow it to cool. The crystals of type "B" cyclonite will form. These crystals are filtered out of the liquid. Filtering is best done in a vacuum (e.g. Buchner) filtering apparatus.

CAUTION: The liquid remaining is glacial acetic acid. Avoid contact and the fumes.

This liquid can then be changed back into acetic anhydride in the process in that section. There is still product dissolved in the glacial acetic acid. If the liquid is to be turned back into acetic anhydride these crystals will fall out in the liquid after the acetic anhydride is formed and could be filtered out after the chemical recovery. If this recovery step is not desired then dilute the remaining reaction liquid from above after removal from the oil bath and it's subsequent cooling. All the crystals will fall out and can be recovered then by filtering. In either case the product should be washed twice with water, twice with boiling water. The product is then dissolved in the least amount of hot acetone possible. Acetone is a common solvent and can be found at any hardware store or paint store. This saturated solution is then cooled and chilled and the final product will fall out as crystals. The resulting fine white to buff colored powder is type "B" cyclonite and is ready to use in plastique explosive manufacture or other suitable uses.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
**Author** | **Topic: draino bomb**  
---|---  
**d-kay**  
A New Voice |  
[posted September 28, 1999 04:46 AM](http://theforum.virtualave.net/ubb/Forum1/HTML/000115.html) |  
Do the bombs including comet and draino cystals have to have particular chemicals? I can't get hold of the comet brand so will any other domestic cleaner do? Please list necessary chemicals.  
IP: *Logged*  
  
**r3b31**  
A New Voice |  
[posted September 28, 1999 07:34 AM](http://theforum.virtualave.net/ubb/Forum1/HTML/000115.html) |  
You will find quite alot of substances on the market reactive to metals such as Al.  
I find that Sodium Hydroxide (NaOH) is found quite easily in the market as Caustic Soda.  
Dilute this in water, and you have a nice reactive substance.  
Be carfull it will burn though your clothes 8-)  
IP: *Logged*  
  
**d-kay**  
A New Voice |  
[posted September 28, 1999 01:42 PM](http://theforum.virtualave.net/ubb/Forum1/HTML/000115.html) |  
Thanks r3b31, but some of your message didn't come through could you send it again, cheers.  
IP: *Logged*  
  
**Lice**  
unregistered |  
[posted September 28, 1999 08:12 PM](http://theforum.virtualave.net/ubb/Forum1/HTML/000115.html) |  
Almost any type of toilet cleaner will work. Remember to put in a lot of Aluminum.  
Lice  
IP: *Logged*
Feticidal Fantasy  
Frequent Poster  

posted October 02, 1999 12:30 PM

Comet + Drano is shit. it does not work. it is a lie.

-------------
Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!  
http://www.seduced.to/fuckyourmother

Ho ju  
Frequent Poster  

posted October 02, 1999 11:11 PM

yeah f.f. has got a point. try using pool chlorine and motor oil, or dry ice and water. they work well. or the fuel tablet that mre's use to cook food with and some water. that works damn good. just seal that up in a container and watch out for boiling water when it explodes.

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

megalomania  
Administrator  

posted October 04, 1999 09:30 AM

You just have to get lucky with your drain cleaner. The active material you want is sodium hydroxide, NaOH, which is caustic soda, or lye. Some brands (identical brands) use sulfuric acid as well as sodium hydroxide in very similar products (the bottles look the same). I find Red Devil Lye works best, it is available at grocery stores and is in solid form.

-------------
Visit Megalomania's Explosives and Stuff at  
http://surf.to/megalomania

All times are ET (US)
Author: darcey  
Frequent Poster  

Does this really work?? i'm abit doubtful and for the corkflakes?? was this guy off his head when he wrote it?? has anyone tried it? if so could you get back to me.

thanks

Author: dlwdaw  
Frequent Poster  

he he.  
the cornflakes are not needed. they just help the power go way down.  
the petroleum jelly should not be used either, it takes the power away.  
just use the KNO3 + S + Charcoal + sugar the sugar might give it more power, i'ame not sure.  
it is not very sensitive. it can handle somewhat high tempuratures. all it is is black powder.a much better explosive that actually detonates instead of deflagerating. is KCLO3 + petrolium jelly.  
it is not a powerful explosive but it works.  
do 9 parts KCLO3 and 1 part petrolium jelly.

--------------

dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
vaseline and chlorate don't explode. they deflagrate. explode implies that the shockwave of another explosion (an initiator/primer) initiates the explosive from its shockwave. pipe bombs explode, but they don't contain explosive.
chlorine - The Explosives and Weapons Forum

Post New Topic    Post Reply

profile | register | preferences | faq | search

UBBFriend: Email This Page to Someone!

next newest topic | next oldest topic

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: chlorine</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-kay</td>
<td>posted October 04, 1999 01:30 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>Doe's mixing chlorine - sugar - water make a pressure bomb?</td>
</tr>
</tbody>
</table>

Blaze
Frequent Poster
posted October 05, 1999 12:47 AM

Yes, well I suppose it does, it slowly reacts into spewy foamy crap

All times are ET (US)

next newest topic | next oldest topic

Administrative Options: Close Topic | Archive/Move | Delete Topic

Hop to:

Contact Us | The Forum

check out the mis forum if you know about this chemical!!!
### Author: Nick

**Topic:** GHB-ethanol

**Poster:** Nick

**Posting Time:** October 05, 1999 01:11 AM

> in the synth of GHB does it matter if i use Triethylene glycol, Butyl Cellosolve, or Triethanolamine Ethanol???

### Author: nbk2000

**Poster:** nbk2000

**Posting Time:** October 05, 1999 03:14 AM

> This is not a drug forum, so asking questions like this one is likely to get you either "Huh?" or "What the Fuck!". Go here for the answers for all things drug related http://lycaeum.org/~strike/cgi-bin/ubb_cgi/Ultimate.cgi?action=intro&BypassCookie=true. This is the appropriate place for questions like yours. PS: use the search engine on that site, your question has already been asked and answered many times. They have a very low tolerance for people how ask things that have already been answered. Hope this helps you out.

> "The knowledge that they fear is a weapon to be used against them."

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: firework explosive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>d-kay</strong></td>
<td>I read that putting a firework (mine, etc...) in a container half filled with gasoline and nails, with the firework fuse pulled through the lid of the bottle, makes a good explosive, but having found out others on various web pages don't work, I was wondering does this?</td>
</tr>
<tr>
<td><strong>Blaze</strong></td>
<td>Most likely - the petrol vapours would ignite it would pop and send fire everywhere, nails would move no more than two feet. If you have a shotshell, black/flash powder, 350ml plastic bottle, petrol. fill bottle 3/4 with petrol, fill shotshell with powder, seal shotshell and fuse through flashhole, slide into neck of bottle, cut hole in lid, replace lid. now you have a nicely sealed incendiery</td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td>Exactly right. 10 bucks says you would have third degree burns over most of your body before the fuse even ignited, damn fumes. Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: nirtomethane alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcy</td>
<td>posted October 04, 1999 03:12 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Does anyone know of any nirtomethane alternatives?? i have been told that pure nitromethane is quite hard to get so does anyone know of another solvent/fuel that could be used?? i need it for the ammonium nitrate explosive putty taken from the MAKeshift Arsenal.</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted October 04, 1999 09:50 AM</td>
</tr>
<tr>
<td>Administrator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You can use just about any flammable organic compound. Gasoline would probably be your safest bet, or something like toluene, xylene, etc.</td>
</tr>
<tr>
<td></td>
<td>---------------------------------</td>
</tr>
<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td>darcy</td>
<td>posted October 05, 1999 07:09 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Would zippo fluid be anygood?? i have used it in a ANFO bomb and it worked very well but would it work with the plastic AM explosive??</td>
</tr>
</tbody>
</table>

All times are ET (US)
**Author** | **Topic:** car bomb
---|---
**d-kay**  
A New Voice | Two more do they work, fill bottle 3/4 with oil the rest with chlorine placed in a gas tank will blow up car? Also toilet cleaner and tin foil makes a good pressure bomb, if they don't what will work?

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Potassium chlorate plastique explosive?</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td><img src="http://theforum.virtualave.net/ubb/Forum1/HTML/000103.html" alt="Image" /> posted September 15, 1999 11:51 AM</td>
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<tr>
<td>ezekiel</td>
<td><img src="http://theforum.virtualave.net/ubb/Forum1/HTML/000103.html" alt="Image" /> posted September 15, 1999 01:24 PM</td>
</tr>
<tr>
<td>nbk2000</td>
<td><img src="http://theforum.virtualave.net/ubb/Forum1/HTML/000103.html" alt="Image" /> posted September 15, 1999 02:58 PM</td>
</tr>
</tbody>
</table>

I was reading a book off nbk2000's web site and I was wondering if this was true or garbage. Here it is.

Potassium or sodium chlorate 90%
Vaseline 10%

It's suppose to have a det of 2900 M/sec and is suppose to be sensitive to flame shock and friction. Is this a real explosive? Thanks

-Poison

It is just a pyrotechnic composition.
burns fast - not explodes.
mixing with phosphorous and airfloat charcoal could give a nice low explosive..
10 petroleum spirit (vaseline)
15 phosphorous
15 airfloat charcoal
60 chlorate

Any mixing of phosphorous and chlorate will cause an explosion. That's how Kurt Saxon lost his hand. And a vaseline/chlorate mix will explode, but even at ideal density it's a weak explosive. Maximum velocity is something like 3,200 m/s. I'd use something stronger like an AN/Smokeless Powder Plastique. But the one advantage the vaseline/chlorate mix has is that you can make the main ingredient (chlorate) cheap as dirt from salt with a battery charger. It would be good for pipe bombs.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged
Potassium chlorate plastique explosive? - The Explosives and Weapons Forum

**Survivor**

*Frequent Poster*

posted September 15, 1999 03:01 PM

Poison, yes it is a real explosive. Cheddite was used as land mine filler by the French during WW1.

----------

/Survivor

Survivor@netlimit.com

----------

**poison**

*Frequent Poster*

posted September 15, 1999 08:13 PM

Cool would I have to use a cap to det it or would just a wick work. Also does it have to be dry? Thanks

-Poison

----------

**nbk2000**

*Frequent Poster*

posted September 15, 1999 08:26 PM

The chlorate explosive needs a cap to detonate it. A wick would make it a strong incendiary. Dry chlorate is the best. Damp would probably loss power. And you don't have much to spare with this.

----------

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

----------

**VeHe MT**

*Frequent Poster*

posted September 16, 1999 06:58 PM

I'm not sure but i think he meant if he had to let the explosive not the chlorate to dry. If thats what he meant no you dont need to since vaseline (like oil) wont dry up.

----------

**nbk2000**

*Frequent Poster*

posted September 16, 1999 07:21 PM

Either way he's going to need a cap to set it off. Go to http://www.50megs.com/nbk2000/weaponsandtactics/kid.html for info on making caps.

Here's a picture of the ones I make.

----------

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
This better work damn it

---------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

it is not a true explosive, it needs confinement to explode.
most landmines are filled with pyrotechnic mixtures, ie those that defraglate but not explode, under confinement however they will build up pressure in the container and cause it to burst, giving the impression of an explosion.

can i use sodium chlorate, and what is the common name, where to get it?? and potass??

Go there = P
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: 70% nitric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>sharky</td>
<td>posted September 23, 1999 07:23 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Has anyone found a cheap source for 70% nitric acid? Pyrotek has it for 17.00 a qt. but you have to pay a 18.00 shipping fee. Are there anyplaces with it cheaper than this? thanks</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted September 24, 1999 02:50 PM</td>
</tr>
<tr>
<td>Administrator</td>
<td>I found a 35 gallon supply of appx. 60% nitric acid for $100 plus a refundable $250 drum deposit. A good deal in the long run. The acid is sold by a janitorial supply company. Strangely enough they told me they don't carry ammonia solutions, too dangerous 😂 ha</td>
</tr>
<tr>
<td><em>Igenx</em></td>
<td>posted September 24, 1999 08:38 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>What's the address?</td>
</tr>
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<td></td>
<td>IP: Logged</td>
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<td></td>
<td>IP: Logged</td>
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</tbody>
</table>

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Ho ju
Frequent Poster

is there any way you can turn 70% nitric acid into red fuming 100% nitric acid?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

IP: Logged

dlw daw
Frequent Poster

dont quote me, dont try this, and correct me if I'm wrong.

if NO2 evaporates before water. then couldn't you just use the method of making HNO3 to conc. it? you know heat condense... etc.??

------------------
HookD iN FoNikzzz WeRkd feR Me.

IP: Logged

AlShoot
Frequent Poster

I don't think that to let the water evaporate will concentrate the acid because the acid is in solution under ions form. A method is maybe to make the water react and so disappear from the solution

IP: Logged

megalomania
Administrator

You have to distill the nitric acid with highly concentrated sulfuric acid, which traps the water, or add nitrogen dioxide to the dilute nitric acid, which reacts with the water forming more nitric acid. In industry they use a system of sulfuric acid distillation equipment to concentrate nitric acid. The nitric acid is mixed in equal portions with sulfuric acid. The 99-100% sulfuric acid holds on to some of the water of the nitric acid (65-70% is how it is made to start). The nitric acid is somewhat more concentrated, 80-90% by now. The sulfuric acid is purged and distilled itself to remove the water it has accumulated. It is then remixed with the nitric acid of higher concentration and the process is repeated several times, each time the nitric acid approaches 100%. To get fuming nitric acid, you must bubble in excess nitrogen dioxide gas.

------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Pyrotec?? how do i order from them?? they have no customer order form??

send for a catalog. they have an order form in the catalog and they explain there VERY complicated shipping instructions.

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Nick
Frequent Poster

posted October 04, 1999 01:08 PM

what grade of blasting cap would a homade A.P. detinator equal, and would larger amounts of more dense amounts produce a more powerful cap??

IP: Logged

poison
Frequent Poster

posted October 04, 1999 01:38 PM

I pritty sure that 2 grams of ap equls to a # 8 cap and 4 grams is a # 10 cap.
-Poison

INick
Frequent Poster

posted October 05, 1999 01:08 AM

would 20 grams mean a higher cap???

IP: Logged

nbk2000
Frequent Poster

posted October 05, 1999 01:12 AM

20 grams is no longer a cap, it's a small bomb. Hand grenades contain about 50-75 grams of HE, so your about half way to a grenade.

-----------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged

Nick
Frequent Poster

posted October 05, 1999 06:49 PM

What is HE? Is it stronger then AP? and thanks for the drug site it helped alot

IP: Logged
H.E. is an abbreviation for High Explosive. L.E. is Low Explosive. Check my site under explosives for more info. I'm about half way done with the Black Book Series. Posting it in a week or so.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
### other good sites - The Explosives and Weapons Forum

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: other good sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>darcey</strong></td>
<td>posted October 06, 1999 12:34 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>does anyone know of any other explosive &amp; homemade weaponry? i have been to every site link in this forum and was wondering if there are any other good sites out there. not amateur blow your hand off kind of sites.</td>
</tr>
</tbody>
</table>

**nbk2000**  
Frequent Poster

posted October 06, 1999 03:59 AM

See your other post on HMTD.

All times are ET (US)

---

**Administrative Options:** Close Topic | Archive/Move | Delete Topic

**Hop to:**

**Contact Us** | **The Forum**

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HMTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>just how sensitive is HMTD?? Does this explosive needed a cap to set it off?, if so what strength?? If anyone has made it could they please post what the explosion was like and how hard it was to detonate. Would HMTD be anygood for a primer say for a larger ANFO bomb?? thanks, darcey</td>
</tr>
<tr>
<td>nbk2000</td>
<td>If you searched any of the posts already here about HMTD, you would know that HMTD doesn't need a cap because it's used to MAKE caps. As for it's strength for detonating ANFO, it should work if your ANFO is dry and loose, well confined, and your cap is large enough with a proper booster like picric acid. As for how sensitive it is, I have no idea since I've never fucked with it. But andy (megalomania) used to have a picture on his site showing a spontaneous explosion of HMTD. Maybe he (or someone else) would be better able to answer that question.</td>
</tr>
<tr>
<td>nbk2000</td>
<td>I forgot to mention that I have a few very informative bookz on my site on explosives, particulary detonators. Just use the link below and look in the explosives section.</td>
</tr>
</tbody>
</table>

"The knowledge that they fear is a weapon to be used against them."


IP: Logged
I don't think megalomania had a pic of it on his page. It was Andy www.calisland.com/apcg and megalomania's page is http://surf.to/megalomania and I thought megalomania's name was Jack not Andy.

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ve He MT
Frequent Poster

posted October 06, 1999 12:37 PM

Heh

All times are ET (US)
<p>| Author     | Topic: hydrochloric acid and klean strip :| |
|------------|-------------------------------------------|
| dlwdaw     | posted October 04, 1999 08:38 PM          |
| Frequent Poster |                                        |
| dlwdaw     | I looked at home depot today and klean strip is not peroxide and also I wanted some HCL but they didnt have it. I was sure I saw it before. any place i could buy this. thanks guys. |
|            | ------------                            |
|            | dlwdaw                      |
|            | &quot;... always look on the positive side of things, blow things up not down&quot; |
|            | -- Ragnar Benson           |
| sharky     | posted October 04, 1999 09:27 PM          |
| Frequent Poster |                                      |
| sharky     | I got my HCL from Ace and it was called Muraitic Acid.. Its used to get off extra cement and mortar from bricks.. |
|            |                                      |
|            | sharky                        |
|            | hope this helps               |
|            | sharky                        |
| dlwdaw     | posted October 04, 1999 09:38 PM          |
| Frequent Poster |                                      |
| dlwdaw     | I know it is called muriatic acid. but I didnt know it was used for bricks. so it would be in the bricks section of homedepot?? |
|            | ------------                            |
|            | dlwdaw                      |
|            | &quot;... always look on the positive side of things, blow things up not down&quot; |
|            | -- Ragnar Benson           |</p>
<table>
<thead>
<tr>
<th>User</th>
<th>Post Date</th>
<th>Message</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sharky</strong></td>
<td><strong>posted October 04, 1999 09:53 PM</strong></td>
<td>I don't know if it's in the bricks section... or maybe the cleaning agents section. In fact, I had to ask this guy that worked there for it and he had to go to the back supply room to get it. Maybe you have to ask them. sharky</td>
<td><strong>Logged</strong></td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td><strong>posted October 05, 1999 12:13 AM</strong></td>
<td>You should buy pool acid instead of concrete etcher. It's much cheaper. Pool acid, 2 gallons, $4.</td>
<td><strong>Logged</strong></td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td><strong>posted October 05, 1999 04:43 AM</strong></td>
<td>Actually, you can find the acid in several departments. It is used to remove excess mortar from concrete work, try the cement section. It is used to clean the inside of swimming pools, try the cleaners section. It is also found by the paint solvents, although I have no idea what they might use it for. Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
<td><strong>Logged</strong></td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td><strong>posted October 05, 1999 04:47 AM</strong></td>
<td>Oh, BTW, what is in Klean Strip if not hydrogen peroxide? Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
<td><strong>Logged</strong></td>
</tr>
</tbody>
</table>
I can't remember, but they sounded like they were very flammable. When I go there next time to buy glue for my salute tubes I will check and try to remember. They were long chemical names. They probably could be put to use. Also could linseed oil be used for anything, or xylene??

thanks

----------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Klean Strip is Acetone. On the top of my can of acetone it says "klean strip"
there are different kinds of klean strip the one I saw was klean strip green.

---------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ho ju
Frequent Poster

is your acetonide (klean strip) %100 acetonide?

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Apathetic
Frequent Poster

Yes my acetone is 100%.

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<tr>
<th>Author</th>
<th>Topic: H2SO4</th>
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<tbody>
<tr>
<td><strong>Paul</strong></td>
<td>I obtained a drain cleaner that claimed to be 93% H2SO4. When I poured it into a beaker I noticed that it had a light brownish color. Then when I tried to heat it to increase the concentration the solution became darker and darker until it was almost a black opaque solution. Is it supposed to do that? What has this company added to it and is it still a useable form of concentrated H2SO4? I need it to make HNO3. Oh, the brand is &quot;Instant Power Guaranteed, Liquid Drain Opener&quot;</td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td>The acid turned black because of organic material absorbed by the acid. When the acid is heated it breaks down the organics into carbon. That's the stuff that darkens the acid. It's harmless and shouldn't affect anything you use it for explosively. &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: cheddite and perchlorate</th>
</tr>
</thead>
<tbody>
<tr>
<td>sharky</td>
<td>posted September 19, 1999 01:39 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Could potassium perchlorate and vaseline be used instead of potassium chlorate and vaseline?</td>
</tr>
<tr>
<td></td>
<td>thanks, sharky</td>
</tr>
<tr>
<td>ezekei l</td>
<td>posted September 19, 1999 04:40 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>it could probably burn hotter but slower, so less explosive - more of an incendry</td>
</tr>
<tr>
<td>VeHeMT</td>
<td>posted September 19, 1999 05:03 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Cheddite doesn't &quot;burn&quot; but detonates, well it does when u use a blasting cap. It has a very low detonation velocity but it does detonate. If it burned for the purposes of deflagration it wouldn't be much of an explosion.</td>
</tr>
<tr>
<td>sharky</td>
<td>posted September 19, 1999 07:56 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>So would the potassium perchlorate work in the detonating cheddite?</td>
</tr>
<tr>
<td></td>
<td>sharky</td>
</tr>
</tbody>
</table>
Dr-D
Frequent Poster

posted September 19, 1999 08:35 PM

Where would one go about obtaining sodium chlorate from? Is there a product which contains it? I would rather buy it than make it via electrolosys. I have looked for it in "weed killer" but all i could find was fertilizer's which didn't even have it in it. A brand name or name of store that carries it would be much help.

nbk2000
Frequent Poster

posted September 20, 1999 05:07 AM

Look in the welding supply section for a product called "Solidox". It's a coffee can sized can. Inside is about 10 toilet paper cardboard tube sized cylinders of black graney material. On top is a red disc. You scratch this with a match stricker to ignite the cylinder. The cylinder burns producing oxygen for an oxygen/propane torch. A can contains about 12 ounces of sodium chlorate. You remove the red discs from the cylinders (cut off), make sure you remove all of the red stuff. Then toss the cylinders in a quart of boiling water. After boiling for 10 minutes, remove and let cool. Then filter through a coffee filter. Save this liquid. Add another quart of water to the black sludge in the pot and boil again. Repeat as before. Take the 2 quarts and boil down till a crystallinescum forms on top of the boiling water. Pour out the water into a casserole dish and put it in an oven to evaporate the last traces of water. Set to 300 degrees F and check on it hourly. Stir every hour till powdery. Remove from the oven (about 8-12 hours) and bottle immediatly to keep dry. A can of solidox cost about $14 last I saw. You may have to call a welding supply company. I don't think home depot would have it.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

AIShoot
Frequent Poster

posted September 21, 1999 01:40 PM

you canfind easily sodium chlorate in all gardening stores. It is sold by 1 or 5kg and is used to destroy all the flowers you don't want to have in your garden. Making it is very difficult.

http://theforum.virtualave.net/ubb/Forum1/HTML/000106.html (2 of 6) [12/6/1999 5:30:17 PM]
I have never seen chlorate in a gardening product. I've called ag. supplies manufacturers about this and they said that chlorate containing products haven't been made in years because of the fire hazard and because more effective products are available. If you can still get it, what is the brand name, and who is the manufacturer? Then I can call around and see if it's available here. And making it isn't difficult, just time consuming. But I bet it's cheaper than buying it.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

---

You can get it in garden centers it comes in 500g, 1,2,3,10 kg tubs. I've seen several brands the one i can remember is made by a firm called doff the tub is white with yellow green and res stripes both have sodium chlorate in huge letters over the front.

Bandit

---

yes but is it pure or does it have additives that make it a more effective herbicide?

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

Where are you guys? I live in california and never seen this stuff. You guys on the east coast? Maybe that's why it's available there.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
i live on the east coast (NY) but i have never seen the stuff they are talking about. i just can't wait till the home depot opens up in town. i am assuming they have alot of good shit.

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

I live in Illinois. And ive visited Ace, Home depo looking for it and I havn't seen any thing like it. Any other stores I should visit? I havn't been able to find much at ace or home depo latly.
-Poison

I live in France and there you can find it at any garden centers as a common herbicide
It is sold in green box and cost around 10$ per 5 kg
Manufacturer is Elf-Atochem

Home Depot is expensive :\
They just try to attract customers by trying to house all of your hardware needs in one building. I know this completely irrelevant but was something i just wanted to say.

where in french do you live Alshoot, cause I'm from germany. So perhaps you just can answer me question where to obtain chemicals better then the other in this forum because french and germany a very close

Sorry for writing france wrong!!!!!!!
PS: I live near Strasbourg (right writing??)
| Jolly Roger  
Frequent Poster | posted September 22, 1999 06:10 PM |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>The best stuff with sodium chlorate in it, is called Tandol. This stuff has the least fire depressant (to anybody that doesn't know, most weedkillers have fire depressant additives that spoil are fun.... these are a bitch to get out!) I have been using Tandol for ages and is is brilliant. Does anyone know what the fire depressant actually is, I was told it was salt??</td>
<td></td>
</tr>
</tbody>
</table>

| Dr-D  
Frequent Poster | posted September 22, 1999 07:50 PM |
|-------------------|-----------------------------------|
| Tandol? what is that/where do you get it?  
So far I have not found any readily abundant source of Sodium Chlorate.  

Home Depot/Lowes is pretty good price wise for bulk items. And they are really cheap compared to Ace hardware here for PVC stuff. |

| john doe  
A New Voice | posted September 22, 1999 09:00 PM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I live in wyoming and I have to steal shit from the high school chemistry lab. out here in the middle of no where that's the only place to find stuff.</td>
<td></td>
</tr>
</tbody>
</table>

| john doe  
A New Voice | posted September 22, 1999 09:02 PM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I live in wyoming and I have to steal shit from the high school chemistry lab. out here in the middle of no where that's the only place to find stuff.</td>
<td></td>
</tr>
</tbody>
</table>

| AlShoot  
Frequent Poster | posted September 23, 1999 01:30 PM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I have never gone to Strasbourg but If you go there you can enter in a big commercial center and go to gardening section. For example you have Castorama or Marius-Ferrat or Leroy-Merlin. You can ask to a french man if you don't know where there shop are. But I am sure you can find them</td>
<td></td>
</tr>
</tbody>
</table>

| john doe  
A New Voice | posted September 23, 1999 03:07 PM |
|-------------|-----------------------------------|
| I live Wyoming and it is hard as hell to find chemicals out here in the middle of no where.  
If I could figure out how to make explosives from cow pies and sage brush I'd in good shape cuz thats all we got here. |
Cow pies and sage brush...
Actually Home Depot is not nearly the treasure trove of chemicals it once was. I have done my great chemical survey there (at least all but a few isles) and I was quite disappointed. I didn't even find the bottle of 30% hydrogen peroxide that is rumored to be in wall a paper stripper product.

If you guys bug me enough I will have to post my existing results and start to look at more stores :P I am the kind of shopper that takes an hour to make a simple decision when provided with choices, so you can imagine me looking at every product on every isle. That's why it took me 4 hours to look at the stuff in HD and I only got 80% of the store done. I have not been to Lowe's yet for the survey, the most fascinating supplies of chemicals I discovered are at pool/spa stores.

-------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Dr-D
Frequent Poster
meg- please do post this list!
it would be very helpful to a lot of us!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: detonating liquid explosives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrochem</td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
</tbody>
</table>

I've made 2-butanone peroxide (like 2-propanone peroxide (AP) but with an extra methyl group). It's pretty unstable and has a fairly high freezing pt but at room temp its still liquid. How would I go about detonating it. Will a safety fuse still work or not?

IP: Logged
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: AP putty+rocket engine powder</th>
</tr>
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<tbody>
<tr>
<td>darcy</td>
<td>posted October 10, 1999 01:02 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Would the soild fuel from model rocket engines be ok to subtitue for the double base smokeless powder?? if so would you mix it with a solvent and then add the AP?? would this work??</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>nbk2000</td>
<td>posted October 10, 1999 02:29 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model rockets use a black powder type fuel. No nitrocellulose. So it won't gel into a plastic mass like double base will. Just make a black muss.</td>
</tr>
<tr>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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<tr>
<td>darcy</td>
<td>posted October 10, 1999 05:06 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>if i put some disolved polystirne or how ever you spell it, in with the blackpowder this would help bind it together?? yep, i pretty sure it will</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>nbk2000</td>
<td>posted October 10, 1999 10:40 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It would stick together, but it would still not be an explosive like AP putty with NC.</td>
</tr>
<tr>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
</tbody>
</table>
Author: darcey  
Frequent Poster  

posted October 09, 1999 12:44 AM   

I was looking at this site about AP putty and the fellow recomended that ping pong balls were made from nirtocellouse or how ever you spell it (guncotton). He said that you could dissolve 30 ping pong balls in a solvent then use the thick paste to mix with the AP the make putty. Will this work or is he full of bullshit. Double base gunpowder is alittle hard to come by where i live unless you have a licence so if anyone has anyther alternatives which work with the AP putty could they please post them.

thanks

Author: nbk2000  
Frequent Poster  

posted October 09, 1999 02:47 AM   

They used to use NC for Ping-Pong balls, but I believe that most if not all manufacturers use polystyrene now. Now you could probably use PS as a binder, but it wouldn't contribute anything to the explosives power. And if it is NC it's not as highly nitrated as NC for explosive uses, thus it's flammable, but not very explosive. If you want to try it, you could make your own nitrocellulose. My website has complete instructions. Look in the explosives section under "Gun Cotton".

-------------

"The knowledge that they fear is a weapon to be used against them."  

http://www.50megs.com/nbk2000

Author: Apathetic  
Frequent Poster  

posted October 09, 1999 01:28 PM   

I made Ap putty by mixing styrofoam with acetone to get a paste. Then I mixed that paste with AP. I let every thing dry then I added a fuse and set it off. It worked just as well as when I made AP putty with smokeless powder. But It only worked that one time, I tried two other times after that but all it did was light on fire and let out little pops.
<table>
<thead>
<tr>
<th>Username</th>
<th>Date/Time</th>
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</thead>
<tbody>
<tr>
<td>Apathetic</td>
<td>October 09, 1999 01:30 PM</td>
<td>I made Ap putty by mixing styrofoam with acetone to get a paste. Then I mixed that paste with AP. I let everything dry then I added a fuse and set it off. It worked just as well as when I made AP putty with smokeless powder. But it only worked that one time, I tried two other times after that but all it did was light on fire and let out little pops.</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>October 09, 1999 02:49 PM</td>
<td>The reason why you heard small pops was that the amount of styrofoam was too much, therefore the layer in between the AP crystals was too far. The small detonations made by the crystals could not pass through the layer around each crystal. It is simply a matter of using the right amount of binder. It is harder to make this mistake with nitrocellulose since it is sensitive to the flame and will break easier as a result of the AP detonating. Also it is very important to let the putty fully dry before trying to use it.</td>
</tr>
<tr>
<td>megalomania</td>
<td>October 11, 1999 04:28 AM</td>
<td>I hear the more expensive profesional ping pong balls used by those serious about the game are made of nitrocellulose. Sounds easier to make NC for what you get from a ball.</td>
</tr>
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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
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<th>Author</th>
<th>Topic: Snap n Pops</th>
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<tr>
<td><strong>poison</strong></td>
<td>posted October 08, 1999 08:01 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Does any one know what thos little kiddy snap and pop fireworks are made out of? Thos ones wraped in paper and have thos little white crystals in it. -Poison</td>
</tr>
<tr>
<td>IP: Logged</td>
<td></td>
</tr>
<tr>
<td><strong>dlwdaw</strong></td>
<td>posted October 08, 1999 08:49 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I'am queessing it is something like silver fulminate. that is the only thing that I know of that is sensitive enough to pop when you grind them between your fingers, well besides nitr-tri-iodide. but that is too unstable and AP and hmtd go bad to fast. -------- dlwdaw &quot;... always look on the positive side of things, blow things up not down&quot; -- Ragnar Benson</td>
</tr>
<tr>
<td>IP: Logged</td>
<td></td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td>posted October 08, 1999 10:44 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>It's silver fulminate. And that's about the most sensitive primary explosive there is. WAY too dangerous to try extracting to make detonators or anything else with. What I've used them for was as an early warnig device. Spray paint them black, being careful not to get them wet with paint. Then you sprinkle them around doorways, on steps, underneath windowss, and in narrow walkways. Anywhere someone would have to walk through to get to you. In the dark and in shadows these are invisible. Someone steps on them, POP! This startles them and gives away their presence. And now they're either going to hesitate about where they step since they can't be sure where these are, thus slowing them down. Or, they may decide they lost the element of surprise and start rushing about making</td>
</tr>
<tr>
<td>Username</td>
<td>Post Date</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>poison</td>
<td>posted October 08, 1999 11:08 PM</td>
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<td></td>
<td></td>
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<tr>
<td>dlwdaw</td>
<td>posted October 09, 1999 08:31 AM</td>
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<tr>
<td>Ve He MT</td>
<td>posted October 09, 1999 11:46 AM</td>
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</tbody>
</table>
Hmm, I shoulda had the instructions to prepare silver, gold, and platinum fulminates on my website, but I decided it was metal blasphemy to use gold, silver, and platinum for an explosive. Now I realize that's a decision for other people to make, and I wrongfully withheld the knowledge. Let the shame on me be magnified a billion fold on those who withhold knowledge or arrogant reasons like "its dangerous" or "someone might misuse it." Wah wah wah.

------------------------

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http://surf.to/megalomania

- - - - - - - - - - - - - - - - - - -
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: hydrogen peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nick</strong></td>
<td>posted October 07, 1999 06:27 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>Drug store Hydogen Per is 3% then there is 6% or 20 volum, for hair dying does this mean 40 volum is 12%?</td>
<td></td>
</tr>
</tbody>
</table>

I think not, in an experiment i used 133ml of 40 volum insted of 200 of 20 volum or 6%, MY RESAULTS WERE MUCH BETTER, ??

<table>
<thead>
<tr>
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<th>Topic: hydrogen peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>dlwdaw</strong></td>
<td>posted October 07, 1999 06:46 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>yes it is 12%.</td>
<td></td>
</tr>
<tr>
<td>10v. is 3%</td>
<td></td>
</tr>
<tr>
<td>20v. is 6%</td>
<td></td>
</tr>
<tr>
<td>40v. is 12%</td>
<td></td>
</tr>
<tr>
<td>100v. is 30%</td>
<td></td>
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</tbody>
</table>

and where did you get it. I havent looked at a beauty supply yet. but before I start a wild goose chase where did you get it??

-------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: hydrogen peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>poison</strong></td>
<td>posted October 07, 1999 07:49 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>I use volume 20 I found at a hair salon and it works great and I git very good veils out of it.</td>
<td></td>
</tr>
</tbody>
</table>

-Poison
<table>
<thead>
<tr>
<th><strong>Ho ju</strong></th>
<th>Frequent Poster</th>
<th>October 07, 1999 09:42 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poison do you use HCl to make HMTD or do you use the C. Acid? If you use HCL where do you get the 30% concentration?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>poison</strong></td>
<td>Frequent Poster</td>
<td>October 07, 1999 10:05 PM</td>
</tr>
<tr>
<td>I have never used 30% HCL for any thing. I use the works brand toilet cleaner. It works for all my needs. Works great for acetone peroxide and HMTD and i have compared mine to ones that use 30% HCL and there is no difference at all. I use HCL to make HMTD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Poison</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>dlwdaw</strong></td>
<td>Frequent Poster</td>
<td>October 07, 1999 10:05 PM</td>
</tr>
<tr>
<td>at hardware stores under the name muriatic acid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>also it should be under cleaner section and pool section and brick section.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>can you get citric. and what is the chemical name for citric acid (i.e. HCL hydrochloric acid)</td>
<td></td>
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<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-- Ragnar Benson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**: The discussion is about using HCL to make HMTD, the availability of 30% HCL, and discussing the use of HCL for cleaning purposes. The posters also mention the importance of knowledge and its potential consequences. The last post includes a quote about looking on the positive side of things.
I got some 20v at a hair shop a meaduam sized one called "creme Developer"

and the topic i posted called AP HELP !!!!!!!!!!! i can Not see the relplys
why?
(Sorry for the spelling )

-------------------
Great minds are't made at school
They are born!

Uh, Oh.

Creme developer? Is your Hydrogen Peroxide a cream? If it is a cream, it won't work :[

Here goes:
HOC(CH₂COOH)(COOH)

or:

COOH
/  
HO-C-COOH  
\ COOH

or:

C₆H₈O₇

or even:

2-hydroxy-1,2,3-propanetricarboxylic acid

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Accursed text graphic did not work as planned

.....COOH
..../
...|
HO-C-COOH
...|
....\
.....COOH

just ignore the spots...

-------------

Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: AP HELP!!!!!!!!!!!!!!!!!!!!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>PryoTek</td>
<td>posted October 06, 1999 06:13 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>- Just a few Questions on AP.</td>
</tr>
<tr>
<td></td>
<td>- What is the best meatearl for a AP blasting cap to be made out of?</td>
</tr>
<tr>
<td></td>
<td>- What is the best way to store AP?</td>
</tr>
<tr>
<td></td>
<td>- What is the best thing to store AP in?</td>
</tr>
<tr>
<td></td>
<td>- How do i desensitize AP?</td>
</tr>
<tr>
<td></td>
<td>- Thanks Pyrotek</td>
</tr>
<tr>
<td></td>
<td>(sorry for the speling 😐)</td>
</tr>
<tr>
<td></td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Great minds are't made at school</td>
</tr>
<tr>
<td></td>
<td>They are born!</td>
</tr>
<tr>
<td>Dr-D</td>
<td>posted October 06, 1999 07:32 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>- While on the subject, I might as well ask my question about AP and get it over with 😐</td>
</tr>
<tr>
<td></td>
<td>- Since there are so many variations on making AP and it seems like everyone and their dog has their own method for making it.. I was wondering what the porportions for making it would be if I had 3% peroxide, acetone, 30% hcl.</td>
</tr>
<tr>
<td></td>
<td>- What would be the most accurate ratio of volumes for it? (I dont have a grad cylin yet)</td>
</tr>
</tbody>
</table>
the best material I know is a spent shell casing like a .308 or a 7.62mm. I sory AP in a film canister cuz its air tight, but never more than a week, AP decomposes rapidly.

to Dr. D the way I tried with the most yield was I took a pint of 3% h2o2 and boil it down to about 60ml, it made it stronger 😐 (I had a hard time finding 30%) plus 50ml acetone and I use 3ml concetrated sulfuric, it filled a 7.62 shell casing. does any one out there know a way with a higher yeild?

you didn't make the H2O2 stronger infact you weakened it. there is a very exacting and dangerous procedure for concentrating H2O2.
you have to clean out your GLASSware with nitric acid, and some other stuff.
it has to be free of organic materials such as metals.
then you have to put it under vaccum and distill it.
it is very dangerous.
I have never tried it.
I think megalomania knows a link to a page that the primary subject is concentrating H2O2.
I saw it on his old bravenet forum.

... always look on the positive side of things, blow things up not down

-- Ragnar Benson

You can also concentrate it by freezing... water freezes before h2o2 so you can freeze the water and take it out of the h2o2.
I think the max concentration you can reach with this method is 53 to 54%

sharky
for real?
alright that rules 54% H2O2. could anyone tell me the proportions for html with this conc.

------------------
dlw daw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

you can also distill booze by freezing it. alcohol freezes at a point lower than water so you just freeze your can of beer. and pour of the semi pure alcohol. 😁

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

That guy has really done some work on his page now that I briefly checked it out, everything you could ever desire about hydrogen peroxide that you can find on the internet is at http://webhome.idirect.com/~earlcp/

------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
The Hydrogen Peroxide Rocket Pages

What this site **IS NOT** about! It is not about Pyrotechnics or Explosives. It is not about KewL or NeAt stuff! It is not about how to get revenge against some-one who looked at you wrong. In fact to learn anything from the following pages you must be able and willing to **read, read and read**! You must be able to do simple **small** experiments, and when they fail start all over again. You must be willing to **learn**!

A number of people have asked me for plans or designs of rocket engines. I am sorry, but you are out of luck asking me. I don't even have a working engine yet, and even if I did I would not just give away plans. How am I to know that you will follow them properly! What this site tries to do is give you the resources to design, plan and construct your own designs. If they work it is because **you** did a good job. If they fail it is **your** fault also. You decide.

The purpose of this site is to aid in the development of Hydrogen Peroxide rockets that use \( \text{H}_2\text{O}_2 \) as either a mono propellant or as an oxidizer with a hydrocarbon based fuel. Due to the fact that in many cases \( \text{NO}_2 \) could be used as an oxidizer in place of \( \text{H}_2\text{O}_2 \) or that the design of \( \text{NO}_2 \) hybrid rockets can be adapted to the use of \( \text{H}_2\text{O}_2 \) as an oxidizer I have included lots of links to such designs as well.

I have tried to include as many sites as it was possible to find of people doing work to create their own liquid fueled or hybrid rockets. At the same time I am including a set of progress reports on my own personal development of a design that should be able to return to it's point of origin under it's own control.

If anyone finds that I am missing an useful link could you please send me a message!

Earl Colby Pottinger. (December 23/1999)

---

**UK's H2O2 Rocket Site:**
This British site is due to being updated soon. It is a useful site with lots of information on the use of \( \text{H}_2\text{O}_2 \) for rockets.

**H2O2 FAQ:**
An attempt to answer most questions asked about \( \text{H}_2\text{O}_2 \), it's chemistry, production, processing and how to safely handle it.

**Email Recieved:**
As I receive some interesting mail at times, I decided to post all of it here.

**Earl Rocket Reports:**
A series of reports on my progress towards building a rocket that and fly and return to base.

**Development Ideas and Experiments:**
Rockets, Stills and Software that I designed and/or built.
Tech Links:
The various WWW Sites I have bookmarked to help me in my projects.

Text Base of Deja News searches for H₂O₂ or Peroxide:

Page Hits 3179
EMAIL to Earl Colby Pottinger
What is $\text{H}_2\text{O}_2$?
$\text{H}_2\text{O}_2$ or Hydrogen Peroxide is a unstable molecule that breaks down into water/steam($\text{H}_2\text{O}$), oxygen($\text{O}_2$), and heat!

What are it's properties?
Substance: Hydrogen peroxide (Hydrogen dioxide) CAS 7722-84-1
Formula: HOOH
Physical Properties: Colorless liquid, bp 150 °C, mp -0.4 °C, Miscible in all proportions in water.
Odor: Slightly pungent, irritating odor.
Vapor Density: 1.15 (air = 1.0)
Vapor Pressure: 1 mm Hg at 15.3 °C, 5 mm Hg at 30 °C.
Flash Point: Noncombustible.
Auto ignition Temperature: None.
Toxicity Data:
LD oral (rat) 75 mg/kg (70%), LD skin (rabbit) 700 mg/kg (90%)
LD skin (rabbit) 9200 mg/kg (70%), LC inhale (rat) >2000 ppm (90%)
PEL (OSHA) 1 ppm (1.4 mg/m) (90%), TLV-TWA (ACGIH) 1 ppm (1.4 mg/m) (90%)

Where do I find links to Material Safety Data Sheets?
University of California, San Diego, Department of Chemistry & Biochemistry, Undergraduate Teaching Laboratories.
List of Material Safety Data Sheets On-line
List of sources of MSDSs on the WWW.
MSDSs

EKA Chemicals, Suppliers of bleaching chemicals and support equipment.
(Note: lots of useful graphs, technical specs, and storage/shipping info here!)
EKA CHEMICALS - Hydrogen Peroxide - Product Information Manual

Office of Laboratory Safety of The Howard Hughes Medical Institute.
LCSS: HYDROGEN PEROXIDE

Degussa Corporation. Supplier of Feed Stock Chemicals.
Degussa Corporation

Is H2O2 toxic or dangerous to handle?
First, H$_2$O$_2$ is not very toxic. If you swallow a very small amount, or spill some onto yourself, it will not kill you. HOWEVER, H$_2$O$_2$ is just like gasoline, propane, or electric. Handle it carelessly and you could very easily end up in the hospital or the morgue. First, steam explosions are easy to occur if the H$_2$O$_2$ is not pure or some contaminants get into it. Second,
it is an oxidizing agent and may start fires if spilled onto organics. Third, it bleaches skin, so long term exposure is sure to give you some damage to your skin.

Links to some people who have handled Hydrogen Peroxide personally.

Major Hazards:
Contact with certain metals and organic compounds can lead to fires and explosions; concentrated solutions can cause severe irritation or burns of the skin, eyes, and mucous membranes.

Toxicity:
Contact with aqueous concentrations of less than 50% cause skin irritation, but more concentrated solutions of hydrogen peroxide are corrosive to the skin. At greater than 10% concentration, hydrogen peroxide is corrosive to the eyes and can cause severe irreversible damage and possibly blindness. Hydrogen peroxide is moderately toxic by ingestion and slightly toxic by inhalation. This substance is not considered to have adequate warning properties.

Hydrogen peroxide has not been found to be carcinogenic in humans. Repeated inhalation exposures produced nasal discharge, bleached hair, and respiratory tract congestion, with some deaths occurring in rats and mice exposed to concentrations greater than 67 ppm.

Flammability and Explosibility:
Hydrogen peroxide is not flammable, but concentrated solutions may undergo violent decomposition in the presence of trace impurities or upon heating.

Reactivity and Incompatibility:
Contact with many organic compounds can lead to immediate fires or violent explosions (consult Bretherick for references and examples). Hydrogen peroxide reacts with certain organic functional groups (ethers, acetals, etc.) to form peroxides, which may explode upon concentration. Reaction with acetone generates explosive cyclic dimeric and trimeric peroxides. Explosions may also occur on exposure of hydrogen peroxide to metals such as sodium, potassium, magnesium, copper, iron, and nickel.

Storage and Handling:
Hydrogen peroxide should be handled in the laboratory using the "basic prudent practices" supplemented by the procedures for work with reactive and explosive substances. Use extreme care when carrying out reactions with hydrogen peroxide because of the fire and explosion potential (immediate or delayed). The use of safety shields is advisable, and is essential for experiments involving concentrated (>50%) solutions of hydrogen peroxide. Sealed containers of hydrogen peroxide can build up dangerous pressures of oxygen, owing to slow decomposition.

Accidents:
In the event of skin contact, immediately wash with soap and water and remove contaminated clothing. In case of eye contact, promptly wash with copious amounts of water for 15 min (lifting upper and lower lids occasionally) and obtain medical attention. If hydrogen peroxide is ingested, obtain medical attention immediately. If large amounts of this compound
are inhaled, move the person to fresh air and seek medical attention at once.

In the event of a spill, remove all ignition sources, soak up the hydrogen peroxide with a spill pillow or absorbent material, place in an appropriate container, and dispose of properly. Respiratory protection may be necessary in the event of a large spill or release in a confined area. Please note it has come to my attention that the above procedure can be very dangerous. If the spill pillow or absorbent is organic/flammable you have just created a small fire bomb. Do not use organic material to soak up hydrogen peroxide!!!!!!!!!!!!!!!

Disposal:
Excess hydrogen peroxide and waste material containing this substance should be placed in an appropriate container, clearly labeled, and handled according to your institution’s waste disposal guidelines.

What books should I read?
"Space Propulsion and Design" by Humble, Henry, and Larson; McGraw-Hill, ISBN 0-07-031320-2 (you can order it from McGraw Hill or Amazon.com). Dr Humble has written several papers on hydrogen peroxide propulsion systems.


Oxygen and it's elements: (reference numbers and author to be added later)
Hydrogen Peroxide: (reference numbers and author to be added later)

What grades are available?
Common industrial grades of \( \text{H}_2\text{O}_2 \) are 35%, 50%, 70% by weight. Higher grades of 85% and 95% seem to be available only by special order or if you make it yourself.

Can I upgrade/concentrate \( \text{H}_2\text{O}_2 \) by myself at home?
Yes, but you probably should not. Unless you already have skills in processing chemicals (in which case you would not be asking this question). You can buy a self contained machine to do the job for you as this can be a very dangerous operation.

Can I concentrate \( \text{H}_2\text{O}_2 \) myself by Boiling it?
Yes! But don’t do it! Three main reasons are:

(A) It is very dangerous! \( \text{H}_2\text{O}_2 \) fumes are very unhealthy to breathe, plus if the vapor concentration is high enough the vapor can act like an explosive. Finally the oxidation ability of \( \text{H}_2\text{O}_2 \) vapors could cause fires to start.

(B) As the temperature rises the rate of decomposing increases exponentially, at the same time releasing heat. At some point especially if there are any contaminates in the \( \text{H}_2\text{O}_2 \) to aid decomposition there could be a thermal run-away reaction resulting in an explosion or if milder you will get the \( \text{H}_2\text{O}_2 \) sprayed all over the place.

(C) Because \( \text{H}_2\text{O}_2 \) starts to decompose fast when heated you will lose a lot of the \( \text{H}_2\text{O}_2 \) to breakdown. You thus just turned a lot of your expensive \( \text{H}_2\text{O}_2 \) into water just because you decided to boil it.
Can I concentrate $\text{H}_2\text{O}_2$ myself by simple distilling?

No, not really. The problem is that the vapor pressure of water is generally 10 times greater than that of the $\text{H}_2\text{O}_2$, thus you end up distilling water not $\text{H}_2\text{O}_2$, the $\text{H}_2\text{O}_2$ is left behind in the evaporator. However, as pointed out in the boiling section above if you raise the temperature of a $\text{H}_2\text{O}_2$ solution you start decompose the $\text{H}_2\text{O}_2$, turning it into water. Simple distilling will tend to waste a lot of the $\text{H}_2\text{O}_2$ contents.

Can I concentrate the $\text{H}_2\text{O}_2$ myself by vacuum distilling out the water?

Yes, the first thing to realize is that vacuum distilling lowers the boiling point. Thus the evaporator can be operated down at 30 to 40 degrees Celsius and thus you get to remove the water without decomposing the $\text{H}_2\text{O}_2$ from thermal breakdown. I did find that maintaining a vacuum for a long time to be very difficult but not impossible. Second, any contaminates in the solution will be left there. This could make the $\text{H}_2\text{O}_2$ very dangerous if the wrong contaminates were there in the first place.

Can I purify the concentrated $\text{H}_2\text{O}_2$ myself by vacuum distilling out the $\text{H}_2\text{O}_2$?

Yes, as before you can lower the boiling point under a vacuum. Notice that $\text{H}_2\text{O}_2$ have a far higher boiling point than water so you need a harder vacuum which is more work. But it can be done. However, you now have hydrogen peroxide with no stabilizers in it, this **MUST** be kept in a very clean container for safety reasons.

Can I concentrate $\text{H}_2\text{O}_2$ myself by freezing?

Yes, you can, but there are has limits on how much water/$\text{H}_2\text{O}_2$ that can be removed by simple freezing. The problem is that at 62% $\text{H}_2\text{O}_2$/H$\text{O}$ solution the peroxide and water freeze together to form an H$\text{O}$/H$\text{O}_2$ ice. Thus whether you are freezing a water rich solution or a hydrogen peroxide rich solution the remaining liquid tends to become a 62% solution where both substances blend and freeze together.

Can I concentrate $\text{H}_2\text{O}_2$ myself by freezing out the water?

Yes, you can, when $\text{H}_2\text{O}_2$ is a small percentage of the solution i.e. less than 40%, the ice that forms is mainly water, so that the percentage of $\text{H}_2\text{O}_2$ left in solution steadily increases as more ice forms. However, some of the $\text{H}_2\text{O}_2$ freezes in the ice also, so there is a loss that gets worse as the percentage of $\text{H}_2\text{O}_2$ approaches 62%. This is a useful and easy way to concentrate very weak $\text{H}_2\text{O}_2$ solutions however. Notice will this process really tends to leave any contaminates in the solution.

Can I concentrate $\text{H}_2\text{O}_2$ myself by freezing out the $\text{H}_2\text{O}_2$?

Yes, you can, but there are has limits on how much $\text{H}_2\text{O}_2$ can be removed by simple freezing. If you start with a 90% or higher $\text{H}_2\text{O}_2$/H$\text{O}$ solution the ice that forms is almost pure $\text{H}_2\text{O}_2$, however the same limits still apply. As you freeze more and more of the $\text{H}_2\text{O}_2$ the percentage of water in solution climbs, and so does the amount of water that freezes in the ice. Again, the freezing will balance at 62%.

**Jump to Quotes on Distilling**

**Jump to Quotes on Freezing**

Why use H$2\text{O}_2$ as a Mono propellant?
Pure H\textsubscript{2}O\textsubscript{2} used as a mono fuel generates steam+O\textsubscript{2} at 1370F or 745C with a vacuum ISP of 147. There are very little environmental impact from the exhaust. If raw H\textsubscript{2}O\textsubscript{2} is spilled onto the ground, normal compounds in the ground will cause the H\textsubscript{2}O\textsubscript{2} to breakdown to water and oxygen. The only dangers seems to be fires being started, or a temporally direct poisoning of surface water that could kill any living things in the water.

**How is H\textsubscript{2}O\textsubscript{2} used as a Mono propellant?**

The usual design is a reaction chamber containing a screen or wire pad coated with a catalyst. Usually silver is the catalyst used. The H\textsubscript{2}O\textsubscript{2} injected into the chamber under pressure, the catalyst causes the H\textsubscript{2}O\textsubscript{2} to decomposed into heated steam and oxygen. The resulting gases can now be exhausted through a nozzle to generate thrust.

**Will stabilizers interfere with my engine?**

When use with a solid catalyst the stabilizers poison the catalyst causing problems with restarts or reusable motors. If it is used as a mono propellant and a liquid catalyst is injected into the engine chamber at the same time then it can usually be made to work. Stabilizers do not have much affect if H\textsubscript{2}O\textsubscript{2} is being used as a oxidizer with a fuel. It will still support combustion. If you follow the links at WWW.H2O2.COM you will notice that they also sell a grade call oxypure that is very low in stabilizers.

**Why use H\textsubscript{2}O\textsubscript{2} as an oxidizer?**

Because it is dense! It has a very good DensityImpluse. It can also be stored at room temperature.

**What ISP do I get with different fuels.**

Peroxide is basically unimpressive in terms of Isp. It's key advantage is its density (specific gravity). Here are some numbers: For a MR = 8.0, Pc = 1000 psia, expansion to 14.7 psia:

- 100% Peroxide/RP-1: Isp (vacuum theoretical) = 295.5
- 98% Peroxide/RP-1: Isp (vacuum theoretical) = 294.2
- 95% Peroxide/RP-1: Isp (vacuum theoretical) = 292.3
- 90% Peroxide/RP-1: Isp (vacuum theoretical) = 288.5
- 70% Peroxide/RP-1: Isp (vacuum theoretical) = 247.8

**What do I make a H\textsubscript{2}O\textsubscript{2} motor out off?**

> Pure H\textsubscript{2}O\textsubscript{2} used as a mono fuel generate steam+O\textsubscript{2} at 1370F or 745C with a ISP of 125-147. Because of the temperature all the fiber/resins I have found so far will not work, the hot O\textsubscript{2} will attack most metals or Carbon Carbon design. A number of designs have use stainless steel, but I don't know how well it will work if you are running 150-250 seconds at a time.

Yes, a hot oxidative environment is hard to deal with if you're using oxidizable materials of construction. Think about using fiber-reinforced ceramics. Silicon Carbide can be used in continuous service up to 1400C in an oxidative environment (It forms a protective layer of SiO\textsubscript{2}). If you deposit a matrix of SiC on a substrate of graphite fiber or SiC whiskers, the part
can be quite strong as well. Niobium is another option.

Hiram Berry

I'm a bit leery of your use of untreated, unregeneratively cooled stainless steel for your combustion chamber. I hope it works, *but*, remember that you can easily cut a sheet of stainless with a torch by slowly shifting the gas stream impinging on the metal to 100% oxygen. Or put another way, hot O2 attacks the metal vigorously. Hopefully your combustion temp won't be hot *enough* for that though. As to finding someone who could deposit a silicon carbide protective layer on it for a reasonable price, any of the shops which specialize in coating machinists' bits with a hard layer of TiC and WC should have the setup to do this. I don't think it requires a very thick layer.

Hiram Berry

Who are working on H2O2 engines?
http://www.erps.org/
http://www.the-rocketman.com/technical.html
Old hat. This guy uses peroxide, gasoline and no moon suits!
http://www.total.net/%7EElaunch/

The Tellurian

Who has worked on them in the past?
The British used hydrogen peroxide extensively in 50s and 60s, culminating in a satellite launcher. For more info:
http://members.aol.com/nicholashl/ukspace/ukspace.htm
The Germans Yup, Me163 Komet.

Where to get H2O2?
http://www.h2o2.com:
Also take a peek at:
http://www.rocket-belt.com/

My motto is simple:
Trust Nothing,
Trust Nobody,
Measure Three times.
<table>
<thead>
<tr>
<th>Substance</th>
<th>Hydrogen peroxide (Hydrogen dioxide) CAS 7722-84-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>HOOH</td>
</tr>
<tr>
<td>Physical Properties</td>
<td>Colorless liquid bp 150 °C, mp -0.4 °C Miscible in all proportions in water</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly pungent, irritating odor</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>1.15 (air = 1.0)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>1 mm Hg at 15.3 °C 5 mm Hg at 30 °C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Noncombustible</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>None</td>
</tr>
<tr>
<td>Toxicity Data</td>
<td>LD₅ oral (rat) 75 mg/kg (70%)</td>
</tr>
<tr>
<td></td>
<td>LD₅ skin (rabbit) 700 mg/kg (90%)</td>
</tr>
<tr>
<td>Major Hazards</td>
<td>Contact with certain metals and organic compounds can lead to fires and explosions; concentrated solutions can cause severe irritation or burns of the skin, eyes, and mucous membranes.</td>
</tr>
<tr>
<td>Toxicty</td>
<td>Contact with aqueous concentrations of less than 50% cause skin irritation, but more concentrated solutions of ( \text{H}_2\text{O}_2 ) are corrosive to the skin. At greater than 10% concentration, hydrogen peroxide is corrosive to the eyes and can cause severe irreversible damage and possibly blindness. Hydrogen peroxide is moderately toxic by ingestion and slightly toxic by inhalation. This substance is not considered to have adequate warning properties. Hydrogen peroxide has not been found to be carcinogenic in humans. Repeated inhalation exposures produced nasal discharge, bleached hair, and respiratory tract congestion, with some deaths occurring in rats and mice exposed to concentrations greater than 67 ppm.</td>
</tr>
<tr>
<td>Flammability and Explosibility</td>
<td>Hydrogen peroxide is not flammable, but concentrated solutions may undergo violent decomposition in the presence of trace impurities or upon heating.</td>
</tr>
<tr>
<td>Reactivity and Incompatibility</td>
<td>Contact with many organic compounds can lead to immediate fires or violent explosions (consult Bretherick for references and examples). Hydrogen peroxide reacts with certain organic functional groups (ethers, acetals, etc.) to form peroxides, which may explode upon concentration. Reaction with acetone generates explosive cyclic dimeric and trimeric peroxides. Explosions may also occur on exposure of hydrogen peroxide to metals such as sodium, potassium, magnesium, copper, iron, and nickel.</td>
</tr>
<tr>
<td>Storage and Handling</td>
<td>Hydrogen peroxide should be handled in the laboratory using the &quot;basic prudent practices&quot; described in Chapter 5.C, supplemented by the procedures for work with reactive and explosive substances (Chapter 5.G). Use extreme care when carrying out reactions with hydrogen peroxide because of the fire and explosion potential (immediate or delayed). The use of safety shields is advisable, and is essential for experiments involving concentrated (&gt;50%) solutions of hydrogen peroxide. Sealed containers of hydrogen peroxide can build up dangerous pressures of oxygen, owing to slow decomposition.</td>
</tr>
</tbody>
</table>
### Accidents

In the event of skin contact, immediately wash with soap and water and remove contaminated clothing. In case of eye contact, promptly wash with copious amounts of water for 15 min (lifting upper and lower lids occasionally) and obtain medical attention. If hydrogen peroxide is ingested, obtain medical attention immediately. If large amounts of this compound are inhaled, move the person to fresh air and seek medical attention at once.

In the event of a spill, remove all ignition sources, soak up the hydrogen peroxide with a spill pillow or absorbent material, place in an appropriate container, and dispose of properly. Respiratory protection may be necessary in the event of a large spill or release in a confined area.

### Disposal

Excess hydrogen peroxide and waste material containing this substance should be placed in an appropriate container, clearly labeled, and handled according to your institution's waste disposal guidelines. For more information on disposal procedures, see Chapter 7 of this volume.

The information in this LCSS has been compiled by a committee of the National Research Council from literature sources and Material Safety Data Sheets and is believed to be accurate as of July 1994. This summary is intended for use by trained laboratory personnel in conjunction with the NRC report *Prudent Practices in the Laboratory: Handling and Disposal of Chemicals*. This LCSS presents a concise summary of safety information that should be adequate for most laboratory uses of the title substance, but in some cases it may be advisable to consult more comprehensive references. This information should not be used as a guide to the nonlaboratory use of this chemical.

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[Lab Chemical Safety Summaries](http://www.qrc.com/hhmi/science/labsafe/lcss/lcss.htm) | LCSS Listing | Laboratory Safety

HHMI Mission | Biomedical Research | Grants | Where is HHMI? | Offices & Organization | HHMI News | Search
I have worked with H2O2 in the textile industry concentrations used varied between 50% and 70%. While certain sensible precautions must be taken these are usually on a par with those applied when handling fuels or corrosive chemicals like H2SO4. My fellow workers at the textile plants were neither well educated nor trained and they only managed to generate one nasty peroxide accident in the six months I was there. It was dealt with quite easily by simply washing the mess into the gutter with high pressure hoses.

Compared with propane, liquid oxygen or hydrazine H2O2 is just as easy to handle with half or a third the fuss when an accident occurs.

First point: I am probably biased. The Eric Saikin mentioned in the article works about 100 yards from me and is the guy (OK, one of three) who hired me here in the first place. However, I am not directly associated with the project in question so that does allow me some distance.

Scott McCrate (mccrates@fuse.net) wrote:

Not to mention the fact that, far from being non-polluting, highly concentrated H2O2 (hydrogen peroxide) is incredibly corrosive and toxic. It may be non-polluting in terms of rocket exhaust or the by-products of reaction, but the chemical itself is supposedly a real monster to handle and deal with.

Provided that you keep it out of your eyes, it's really not that big of a deal. You spill some on you, you wash it off promptly, you have a mild chemical burn(*), but nothing that warrants a trip to the clinic.

Yes, it is an oxidizer. But compared to things like RFNA, LOX, etc. it's rather well behaved. Those are some *nasty* chemicals, but nobody thinks twice about them being used in rockets....

(*) Sorry, no cites. Only the word of the guy who's doing the bulk of the work here...and yes, he claims it as first hand experience.

-- David Hall Propulsion Performance Office (Code 4732H0D) Naval Air Warfare Center - Weapons Division China Lake, CA 93555
Konrad Hambrick (<A HREF="http://www.dejanews.com/profile.xp?author=konrad@netcom.com&ST=PS">konrad@netcom.com</A>) wrote:

: >>energy out of highly concentrated hydrogen peroxide, the chemical

: Yeah, and I don't relish wearing a moon-suit while
: fueling my rocket and my pickup truck either ;-0

Just as a point of interest, I just stumbled across a first hand account of a guy spilling 35% peroxide (In portions of the article I deleted, the author explains that "Oxonia" is a brand name for 35% peroxide)....

Having inadvertently gotten Oxonia on my hands once, I can say with certainty that this is some nasty shit. On contact, and for about five minutes thereafter, there was no sign of anything being amiss - the stuff looks just like water and produces no immediate sensation. My first clue was a slight tingling sensation that rapidly escalated to burning and stinging. Naturally this directed my attention to my hands - much to my chagrin, I found the pads of my fingers puffy and bleached stark porcelain white! Soaking them in a sink full of cold water diluted the stuff and eventually stopped the reaction, but the skin remained bleached until the dead oxidized? Shit, I'm an EE, not a chemist) layers sloughed off a few days later.

My comment? Well, obviously this stuff wasn't the *high* purity stuff we're talking about, but it should be strong enough to get an idea of what we're dealing with...And yet, for five *minutes* he didn't notice anything wrong.

Hardly moon suit territory.

-- David Hall Propulsion Performance Office (Code 4732H0D) Naval Air Warfare Center - Weapons Division China Lake, CA 93555

Scott Crossfield (the first man to fly at Mach 2 in the Douglas D-558-II Skyrocket and North American Aviation's company test pilot for the X-15) described a hydrogen peroxide spill incident in his book, "Always Another Dawn." The Douglas Skyrocket used the 4-chambered water-alcohol/LOX XLR-11 engine, and its pumps were powered by either hydrogen peroxide by itself (catalyzed) or peroxide and potassium permanganate (it's been a long time since I've read the book).

During preparations for a flight, a technician was sprayed with hydrogen peroxide. Crossfield ran over to him and ripped off all of the .

Jason technician's clothes before they burst into flames. The man's skin was bleached as
white as typing paper, but he was otherwise unharmed

-- James J. Wentworth

EMAIL to Earl Colby Pottinger
Note the following quote on distilling:

Well, H2O2 can be vacuum distilled to higher concentrations because of the fact that water has a much higher vapor pressure than peroxide at around room temperature. There is a possibility that you could do just about the same thing with a simple countercurrent column. I.e. a column filled with small glass beads -- feed stock warm peroxide solution trickles down the column by gravity feed, while *very clean*, filtered air is forced up the tube. The air exiting the top of the tube carries away mostly water vapor, while the remnant liquid dripping out the bottom of the tube is enriched in H2O2. To make this work properly you'll need to accurately match the liquid vs. air flows to a detailed thermodynamic analysis of the column.

Hiram Berry

EMAIL to Earl Colby Pottinger
Note the following quotes on freezing:

I would be very careful with that. I like the idea of H2O2 as an oxidizer, but it can be touchy. You are assuming that 70% H2O2 is high-purity because it is used for treating drinking water. That's a bad assumption. It simply means that it doesn't contain toxic or dangerous (if swallowed) contaminants. I'm not sure, but I think there are non-toxic chemicals that can catalyze H2O2 decomposition.

If so, they may be present in 70%, commercial H2O2. In that case, concentrating the H2O2 by fractional freezing would be creating a bomb that could explode any time it felt like it. Handling and storage, in the process of concentrating the H2O2 could also add contaminants. I'm not saying that you have a bad idea, just that you need to be _very_ careful. You should assume that the stuff might explode at any time, and plan the work accordingly. Don't relax that assumption if it works. Wait until the process is well tested and you are extremely confident with the results. Even then, stay in contact with your source: If they change their production process, you might hit serious (dangerous) problems long after you thought you had all the bugs worked out. The important thing to remember is that _anything_ that can be used as a mono propellant is, in effect, a potential bomb. If you are careful, and pay attention to the possible dangers and ways to avoid them, this isn't a problem. But you really do need to be careful.

Frank Crary
CU Boulder

There is an online paper dealing with this method, at http://www.im.lcs.mit.edu/bh/bh-paper1.html

The approach is to use fractional crystallization to precipitate >90% H2O2 at soft cryogen temps from commercially available 70% solution-- the remnant liquor is 62% H2O2, so the yield isn't too spectacular. You may find that the overall cost of such a procedure (including the overhead of safety procedures involved) makes it unattractive compared to just using the 70% commercial product and increasing the tankage to account for the slightly lowered Isp.

The reason you cannot purify H2O2 to >62% by fractional crystallization is that the water-peroxide system has a eutectic, or "melting point minimum", point at this composition. Indeed, you could take a 30% solution, carefully cool it to -55C and remove the crystallized water ice; the liquid left at this point is 62% peroxide. But you can't make it any more concentrated than that-- further cooling just precipitates out an ice which is 62% H2O2 and no net concentration takes place. On the other hand, if you start with a concentrated peroxide solution, say 85%, and progressively cool it, the solid which settles out is almost pure H2O2 -- until, of course you reach -55C at which point the solution left is, like before, 62% peroxide.

Hiram Berry
Hydrogen peroxide is not currently available at 98% concentration in the United States. It may, however, be produced from 70% concentration peroxide, which is a commodity item, by fractional crystallization. The 70% liquid is chilled to -67 F, which forms a two-phase system consisting of solid hydrogen peroxide and 62% concentration liquid. The solid peroxide occludes a great deal of liquid, so centrifugal separation is required to yield the pure peroxide solid, which is then thawed. The process has several advantages. It is safer than distillation. Impurities tend to remain in the liquid solution rather than the solid precipitate. The 62% liquid may be distilled to 70% for reuse in the system. Most of the concern about 98% H₂O₂ for rocket applications is anecdotal. John Clark's book "Ignition -- An Informal History of Liquid Rocket Propulsion" devotes an entire chapter to hydrogen peroxide, and has two problems with it. First, the freezing point is high -- about 31.4F (-0.4C). Anything added to hydrogen peroxide to depress the freezing point made it unstable and potentially explosive. Secondly, the Navy tested a puddle of jet fuel upon which they poured 90% H₂O₂. The peroxide sank though the fuel, began to decompose in contact with the dirt, formed an oxygen/fuel vapor mixture, and blew up. Spills of this type must, as a result, be avoided.

The second source of concern with peroxide is the Me-163B experience and the capture of stocks of 70% H₂O₂ by the Allies after V-E day. The Me-163B often landed in flames and had a real problem with safety. The oxidant for the Me-163B was 70% H₂O₂, but it was manufactured...
by coerced labor with shoddy quality control under wartime conditions. Modern hydrogen peroxide, according to David Andrews is a "completely different material". The Me-163B itself had wooden primary structure. Finally, the real risk was in the fuel -- a mixture of nitrous oxide, hydrazine hydrate, methanol, and potassium cuprocyanate. The Me-163A, which used 70% H\textsubscript{2}O\textsubscript{2} as a monopropellant, was much safer.

The overwhelming choice for oxidizer in the aircraft rocket world has been hydrogen peroxide. The AR-2 engine, used in the FJ-4, F-86, and the NF-104, was a 90% H\textsubscript{2}O\textsubscript{2} and JP-5 or JP-4 engine, had a two hour time between overhauls (a number that isn't even specified for most rockets) and was operated and maintained by ordinary Air Force enlisted servicemen for years. The Snarler and Screamer engines used in the UK's Buccaneer fighter also employed 85% H\textsubscript{2}O\textsubscript{2} and kerosene, and eventually begat the Gamma engine used in the Black Knight and Black Arrow rocket programs.

Hydrogen peroxide in any concentration is an oxidant and as such needs to be treated with respect and care. It is clearly a less powerful oxidant than oxygen, but even so, it has to be handled according to a well-defined set of procedures. The hazards usually manifest themselves in the effect of impurities on the peroxide rather than the effect of the peroxide on the impurities. Notice that this is the reverse of the mechanism of failure with liquid oxygen, where a small impurity tends to burn and cause an evolution of oxygen gas that destroys delicate parts and leads to catastrophic failure. Nevertheless, the failures are equally catastrophic and the standard of cleanliness is the same. Impurities of all kinds, particularly organics, must be absolutely avoided.

One additional precaution is needed with peroxide -- anything that touches it must be passivated beforehand. There are a large number of procedures for passivation, generally involving the washing of the part with high strength nitric acid and then with progressively higher grades of peroxide until final peroxide strength is reached. Not all materials are suitable for peroxide use. Stainless steels, some aluminum alloys, zirconium, glass, and tin can all be treated to class 1 compatibility with 98% H\textsubscript{2}O\textsubscript{2}. Class 1 means "suitable for storage tanks and long term continuous exposure" and involves a decomposition rate of 0.4 to 0.1 % per year. Of particular concern is the choice of materials for lubricants and seals. Only fluorinated polymers (such as Teflon, Kel-F, or Viton) appear to be suitable.

An interesting result of the long term compatibility results for hydrogen peroxide is that 98% H\textsubscript{2}O\textsubscript{2} is more stable that 90% H\textsubscript{2}O\textsubscript{2}. The reason for this appears to be that the water molecule is very slightly catalytic, being polar. Also, elevated pressure can suppress decomposition (by reason of Le Chatelier's principle), but the recommended practice is to vent peroxide storage and transport containers.

The hazards of dealing with high purity hydrogen peroxide fall into four categories: detonation and explosion, uncontrolled decomposition, fire, and personnel injury.

Concentrated vapors will irritate the nasal passages and eyes. Vapors, mists, and liquid will irritate skin. Ingested peroxide will decompose internally, leading to severe distention of the stomach and internal burns. The corrective action is to flush with water. Do not ingest.
vapor pressure is only 1/9 that of water, which helps prevent harmful exposure to hazardous vapor levels.

Hydrogen peroxide is not flammable, but will react with combustible materials with the evolution of enough heat to initiate and support combustion. Removing the air does not help, because the peroxide generates its own oxygen on decomposition. Fight peroxide fires with water. Chemical extinguishers will catalyze further decomposition.

98% \( \text{H}_2\text{O}_2 \) is not classified as impact or shock sensitive. Numerous tests have been unable to sustain detonation waves in liquid peroxide solutions. Vapor phase concentrations of over 26% peroxide are considered "explosive" in the sense that the release of energy in the vapor phase upon decomposition is rapid enough to produce effects normally associated with explosions. For 98% \( \text{H}_2\text{O}_2 \) the limit \(^{32}\) is 212 F. Invariably, peroxide vapor hazards are preceded by a slow buildup of temperature and pressure in the tanks. The corrective action is to monitor temperature and pressure buildups, vent the tanks, do not permit elevated temperatures and avoid impurities.

98% \( \text{H}_2\text{O}_2 \) can be, and indeed has been, a safe and effective rocket propellant PROVIDED THE RIGHT DESIGN, MANUFACTURE, AND OPERATIONS PROCEDURES ARE FOLLOWED. The entire system must be composed of peroxide compatible materials, preferably class 1. The system must be designed and operated in such a way as to prevent contamination with reactive materials (no garden hose purges, no greasy handprints on the refueling nozzle, etc.). Keep the number of mechanical joints to a minimum. Vent ball valves upstream. Avoid threaded connections. Design the system to amply sustain the maximum operating pressure. Avoid liquid traps in propellant lines. The purge system must not require disconnecting any system joints. All components must be reliable, compatible with peroxide, and properly cleaned and passivated. Following these procedures can assure the user of first-time safety and success \(^{33}\).

Using hydrogen peroxide as a rocket oxidant can offer significant benefits provided it can be handled and used safely. This is a paramount issue for modern rocket designers, and the exothermic nature of 98% \( \text{H}_2\text{O}_2 \) causes some legitimate concerns. The solution to these concerns is not in new technology, but in proper design, manufacture and operations procedures -- in short, the answer is discipline.

**Conclusions**

The inflight propellant transfer concept offers a great degree of capability and flexibility, with little in the way of required technological development. It can be used with a variety of different propellant combinations, the selection of which depends on scale and other mission requirements. The concept is arguably easier to test than competing concepts and uses many existing resources, such as tankers and runways, that have already been paid for. Many criticisms have been made of the initial Black Horse design, as a result of which the concept has become stronger and more credible.
The Hydrogen Peroxide Email Received

This is some of the email I have received. If I have posted a message that you object to be made public please send me a message to have it removed by the next business day.

Earl Colby Pottinger. (December 7/1999)

Email Received for October, November, December 1999:

Email Received for July, August, September 1999:

Email Received for April, May, June 1999:

Email Received for January, February, March 1999:

Email Received for October, November, December 1998:

EMAIL to Earl Colby Pottinger
Hi all,

The papers and posters from the 2nd Annual H2O2 Propulsion conference held in November 99 at Purdue University are being made available to non attendees for US $75.00 plus $5.00 S&H. They would like to post a notice of the ordering details to the ERPS list. May I pass on the ERPS email address. You will be able to order direct form Purdue.

Michael or someone else please advise.

Cheers,
Brian

---

Mr Pottinger:

I ran across your site following an Altavista search. If you're not already a member, I'd like to invite you to join the premier Experimental Rocketry mailing list, ARocket.

Many of the best known rocketry groups around the world are represented on ARocket, including RRS, DARK and many others. In addition, you'll find CATS Prize competitors and all different sorts of people on the list.

There has been recurring interest in hydrogen peroxide based hybrids and monopropellant designs over the past few years and you could certainly contribute a good deal to such discussions. You might even find that some of the folks who are on the list and have worked at firms like Aerojet or for the US military or NASA could help you out with a problem or two!

If you're not already on our list (I'm not the list admin, so I don't know if you are or not), please take a look at the ARocket website and click on the "Open Forum" button to find out about the mailing list. The URL is http://www.arocket.net.

I hope you'll join us!

Regards,
Earl,

If you're still having difficulty finding chemicals, try http://www.chemlab.com/; they distribute for VWR and Fisher.

---

Message-Id: <199912200501.AAA05682@ares.idirect.com>
To: Viva Cundliffe <gomaster@rockies.net>
Subject: Re: H202 in the atmosphere
Date: Sat, 19 Jun 1999 00:02:43 EDT
From: "Earl Colby Pottinger" <earlcp@idirect.com>

Sorry to take so long, may I suggest http://techreports.larc.nasa.gov/cgi-bin/NTRS then do a search using "h2o2" also try another search using "hydrogen AND peroxide" this should get you some interesting hits/reports.

    Earl Pottinger

>Dear Mr. Pottinger,

>Do you have any literature that describes the breakdown of H202 in the upper atmosphere?

Viva Cundliffe

---

Message-ID: <19991205173727.55057.qmail@hotmail.com>
From: "Simon Shakespeare" <sashakespeare@hotmail.com>
To: "Earl Colby Pottinger" <earlcp@conpute.com>
Subject: Web page & work complement...
Date: Sun, 5 Dec 1999 17:36:20 -0000

Earl,

I thought that I'd just drop you an Email and say 'Hello' and 'Keep at it'. I discovered your web site about a year ago, when you started on your H2O2 experiments. I have always been interested in rocket design and have enjoyed looking at web pages of amateurs performing research on low budget engine designs.

Hello,

    Glad you find the site interesting. I hope to start some real work soon on some cheap (less than $500) engines. I found few amateurs stick it out on liquid fuel designs and no one else publishes any details. I hope to have something as soon as I find a way to plate some
silver.

I should perhaps mention something about myself (i.e. the reason why I enjoy 'researching'), which is that I'm currently writing up my Ph.D in electronic engineering at Nottingham University, England. Like you, rocket science is a hobby rather than part of my regular (research) work!

Bet you didn't know I was born in London, England. Yes, I am a Limey by birth! :) And it is not just a hobby, it is a standby lifestyle in case I need a new life.

You seem to have some technological limitations that keep frustrating your work and it is something I can fully appreciate. (My university is reluctant to even buy my a scope probe let alone a new computer! 'But professor, I'm using 1950's equipment...no! no! please don't take it away without buying me a new one...damn.') Currently the rocket science part of my mind has taken a sort of back seat as I struggle to finish my doctorate and then look for a decent job. I do work on some theoretical design work though, including small engine design and other related issues. Once I'm settled in a job I hope to push forward the more practical hands on engineering creation and research.

My main problems are really due to regulations, I can't buy 70% H2O2 over the counter and transport it myself without a HazMat license. I can't buy Silver Nitrate solution unless on a business account. I can't have HTP or Silver plating solution transported across the U.S.-Canada border without a lot of problems.

Thus I spend a lot of time trying to develop solutions that allow me to get around the regulations, like buying 35%-50% H2O2 and then upgrading it onsite to 70%+

I realise you're having problems replying to Email, so I'm quite happy to wait a while if you snowed under. I would like to correspond with you, though, if you get the opportunity. I like to look across the whole private space 'industry' and measure who's doing what.

The Email is working fine now, however my work hours are unpredictable, so I don't know when I can answer mail or update the site.

I thought of your H2O2 work, when I looked at rotary rocket's website. www.rotaryrocket.com. They discarded H2O2 in favour of Liquid Oxygen, because of the improvement in ISP and mass fraction. However, handling cryogenic propellants, as you pointed out is seriously expensive and difficult. The only issues (other than ISP) that worries me about H2O2 are safety, cost and availability. I am concerned with the stability problems of H2O2, especially if it is purified to remove the stabilisers. I believe that was the reason why the English abandoned it in the 1960's (mind you, they abandoned the whole of rocket science then, as well!).

As far as I can tell, the cleaner the H2O2 and it's storage tanks, the safer it is. Also storing it ice cold makes it safer and slows down the decomposition.

I did see a paper somewhere (it might have been one of the University of Surrey conferences) that used stabilized H2O2 and a solid catalyst that is consumed during flight. Obviously, this reduces the 'reusability' of an engine, but would reduce the problem of having to maintain the
H2O2 at a cool temperature to maintain safety.

Yes, I would love to know what this consumable catalyst is, it would work fine for me and my short term plans. I believe you are referring to http://www.ee.surrey.ac.uk/SSC/H2O2CONF/sheister.htm

I like your idea of a regeneratively cooled catalyst, by the way, but still wonder if it would still be enough to prevent catalyst removal. Any comment?

In fact I don't know if it will work out or not, that is why I also am working on a design that inject a liquid catalyst. However, this is an idea that I have never seen suggested anywhere, and I would love to be able to break new ground at the same time that I am learning things that the experts have known for long than I have been alive. It makes feel that I am not just repeating everyone's else mistakes.

I get to make all new mistakes of my very own :)

Would enjoy a chat if you ever get the chance, keep up the interesting work.

Sincerely,

Simon Shakespeare.

[Just turned 25. How old are you, by the way. I get the impression that you're in your twenties as well?]

I don't know if I should take this in a good light or a bad one. I just passed 43 years. I was born in Oct. 1956.

Earl Colby Pottinger
In case forgot my E-mail address, contact me at Y2Kbs12@aol.com -Thanks-

Ok, first to know what different metals affect H2O2 and their rates of reaction you show go to a main branch of your library or local university to find one of the books listed in the FAQ on hydrogen peroxide. Magnesium and copper will all cause H2O2 to decompose and if the Magnesium should catch fire you will be in main trouble. I don't know about SAE 1020 Steel.

I can't tell you the rate the H2O2 will decompose or the rate the metal will corrode, that is affected by which alloys your metal is made of. Instead you will have to try an experiment yourself with a few drops of H2O2 on a sample piece of metal.

Instead what you should ask what materials are available to you to buy/borrow that are safe to use. Try reading the history of my experiments next to see what can go wrong there. Basicly, you have stainless steel which for some reason there are now alot of things being made from. You can *ONLY* use very pure aluminium, the only easy source I have found is aluminium foil but it can be use to line or wrap all sorts of thing. And the last thing is polyethylene tubing which should be easy to find.

PS. If my earlier message did not reach you I am resending using a different message format.

Earl Colby Pottinger

From: Y2kbs12@aol.com
Message-ID: <0.de01d864.25775f3d@aol.com>
Date: Thu, 2 Dec 1999 00:35:57 EST
Subject: Hydrogen Peroxide
To: earlcp@conpute.com

Hi,

My name is Justin and I am Experimenting with Hydrogen Peroxide. My Rocket Engine Uses Hydrogen Peroxide as a Oxidizer and kerosene as the Fuel. I have heard a rumor that Hydrogen Peroxide can burn without a fuel. If this is true then E-mail me info at-Y2Kbs12@aol.com-Be Sure to mail me info on pressures and burn times of Hydrogen Peroxide.

By itself H2O2 is not burned, it is decomposed, ie breaks down to Water, Oxygen and lots and lots of heat so every thing comes out as a hot gas.

All the motors I have built to date are of this type, if you go to my website http://webhome.idirect.com and go to the section on rockets I have built you will see what I mean. Also it will not hurt to read the FAQs.

Sorry if I have not answered your question directly, but that is why the site exists. I am trying to force you to read, think and even learn beforehand, what it is that you need to design your *own* engines. I just do not give out easy answers, I supply pointers and you have to work the rest out yourself.

Earl Colby Pottinger
Hi Earl,

> Found notes on explosive mixtures of H2O2:  
> http://www.ee.surrey.ac.uk/SSC/H2O2CONF/mjeff.htm agrees with you that 88% can be made to explode.  
> However, it also says that it is not easy to start the reaction if the H2O2 is pure.

I am only going by what I have read, since I have not played around with conc. H2O2 (but I could regale you for hours about my misspent youth and an interest in explosives and rockets).

I have seen footage of Me 163s blowing up on a hard landing, and that was no gentle reaction!!

> On the other hand if there are organics in the H2O2 the explosive percentage can be as low as 50%!!! So keeping the H2O2 pure is very important.

No argument there!

> On the idea that high purity H2O2 can be stored without adding stabilizers please check out:  
> http://www.ee.surrey.ac.uk/SSC/H2O2CONF/afrolov.htm  
> where you will see the results of the russians storing H2O2 in high purity aluminium tanks.

High purity Alu tanks and pipes were emphasized in the book I mentioned. Also as mentioned, it is the copper that is in almost all Alu alloys, that acts as a catalyst.

By the way, I noticed the other day that the second generation of the Starthilfe booster (HWK 109-501) actually used 3 separate tanks. Never noticed that before. There is a large spherical H2O2 tank, a tank with 12 KG of fuel ("B-Br-Stoff" ..don't know what the first "B" is but the rest means "Brennstoff" or "Fuel"), and a third small 12KG tank of catalyst Z-Stoff, which is a 4% Potassium Permanganate solution.

This was the "Hot" walter cycle. The first version of the Starthilfe was "Cold" (decomposition only; no combustion).

Bob.
On the other hand if there are organics in the H2O2 the explosive percentage can be as low as 50%!!! So keeping the H2O2 pure is very important.

On the idea that high purity H2O2 can be stored without adding stabilizers please check out: http://www.ee.surrey.ac.uk/SSC/H2O2CONF/afrolov.htm where you will see the results of the russians storing H2O2 in high purity aluminium tanks.

Earl Colby Pottinger

From: Earl Pottinger <earlcp@conpute.com>
To: "Bob Wilson" <rfwilson@intergate.bc.ca>

Hello,

I need to check some facts on my end, but if what I think what is going on is right we may be in agreement but translating the word "detonatable" diffirent. I seem to remember a lower concentration which is why I have to double check. At a certain percentage H2O2 will support thermal run-away, ie it generates enough heat while decomposing to heat and decompose the same or additional(greater) amount of H2O2.

This is however a thermal affect, not a shock effect. Or could large shocks be heating the H2O2??????

E.C. Pottinger

Hi Earl,

> Thank you for the suggestion on where to look for the book. I hope to do it before the christmas rush takes over downtown.

The Goethe Institut will not likely have the book. But they will probably be able to connect you with the publisher (Bechtle Verlag; it means Bechtle Press or publishers). Since they have one factory in Esslingen (right next to Stuttgart), a town I know very well (and was there last summer), I thought I'd see what I could find on the web. Unfortunately the only info I found was a description of Bechtle and a photo of their plant, on the Esslingen newspaper's website. Funny. After seeing the photo, I realized I have walked past this large building numerous times without paying any attention to what it was!

In any event, try phoning the Goethe Institut and ask to speak to their Librarian.

> And YES! H2O2 is very dangerous around organics with greases and oils always being a problem, however what I am disagreeing about is your statements
on the abilities of H2O2 to explode from shock effects. Highly pure H2O2 should not be affected that way!

As a chemistry major way back at University, I would tend to strongly disagree. Here are a few translated quotes from the book that might be of interest, starting on page 28 (there are ~850 pages in total):

"Professor Hellmuth [the "h" is silent] Walter developed in the year 1930 to 1934 with the company Krupp Germania-Werft, a gas turbine for powering ships based on the heat of decomposition of Hydrogen Peroxide."

"The company Munchner Fabrik der EWM [EWM factory of Munich] with the help of financing from the German RLM [Reich Luft Ministerium, or the Government Air Ministry], established in Lauterburg [in the mountainous rural Harz region of Germany] a production facility for high purity concentrated H2O2". The Harz region was likely chosen because it had ample access to hydroelectric power (which is how H2O2 was synthesized), and was not a point of any interest to enemy bombers.

With respect to detonation, it states that "With concentrations higher than 87%, H2O2 is "detonatable" [the direct translation]."

It also mentions the usual problems with oil, grease and so on, and that absolutely EVERYTHING that came in contact with the stuff had to be thoroughly washed to remove all soil, and even finger oils. Rubber or PVC gloves etc. were mandatory.

It makes an interesting point absolutely no copper could come in contact with the stuff. That also means no aluminum alloys since copper is a common alloying element in aluminum. Only pure Alu could be used, or (preferably) Chrome plated steel or Nickel. Monel was out of the question even though it was (and is) commonly used in the handling of nasty chemicals, since it is an alloy of nickel and copper.

Further mention is made that the stuff had to be protected against exposure to light during storage.

They also mention about several inhibitors that were successful in taming its explosive nature [which is how they tame the stuff today], but the names of the chemicals mean nothing to me since they are German tradenames of commercial chemicals probably no longer made.

Anyway, I thought that might be at least historically interesting.

Have you gone to the british site? They don't seem to have the problem storing and handling it. http://www.ee.surrey.ac.uk/SSC/H2O2CONF/index.htm

As I said, a lot of work was done on inhibitors to tame the stuff. One point they make in the book was that when EVM started to look into making the stuff in production quantities, "for 40 years" textbooks said that the stuff was too unstable to consider producing in volume. It seems to make the point that trace amounts of inhibitors, or stabilizers, made long term storage possible. Certainly I recall from my chemistry days (before I got sidetracked into Engineering!) that I saw several mentions in various texts about the importance of inhibitors in commercial H2O2 production.
One point about purity being the problem. The method used by Germany to make H2O2 was
electrochemical action on water. There were apparently no other chemicals used, so no purity
problem would seem to present itself. The book also makes the point that their concentrated
H2O2 was absolutely water clear, also suggesting high purity.

Anyway, enough for now.
Bob.

From: Earl Pottinger <earlcp@conpute.com>
To: "Bob Wilson" <rfwilson@intergate.bc.ca>

Thank you for the suggestion on where to look for the book. I hope to do it before the
christmas rush takes over downtown.

And YES! H2O2 is very dangerous around organics with greases and oils always being a
problem, however what I am disagreeing about is your statements on the abilities of H2O2 to
explode from shock effects. Highly pure H2O2 should not be affected that way!

Have you gone to the british site? They don't seem to have the problem storing and handling it.
http://www.ee.surrey.ac.uk/SSC/H2O2CONF/index.htm

Hi Earl,

> "Peenemunde West" is not a book in the local library! It may be in the Toronto main library,
thanks for the title! Even in german the pictures and diagrams may
> be useful.

I am not surprised in the least that the TO library has never hear of this book. Still, Bechtle is a
very well known publisher in Germany. Why not ask at the Goethe Institut in Toronto how they
recommend you could get a copy. The Goethe Institut (named after the famous German poet
Goethe, pronounced "Goeta", **NOT** "Goth"!) is a German government funded organization
whose function is to promote German culture. They will CERTAINLY know of Bechtle
(pronounce the "e" at the end! It is not silent!), and may have some suggestions. They are in
the TO phone book.

> Now that is really silly of me. I always assume that steam catapults were powered high
pressure boilers.

Why do things normally, when you can play mad scientist!
Please note that I am *NOT* saying that high purity H2O2 is not dangerous - it is! I am just saying that the suits the pilots were in is for more than just the H2O2.

As you seem to have very detailed knowledge on the German's design I hope you join any discussions on SCI.SPACE.TECH!

I have followed it since I was a kid (50 years ago). Also, having worked with a large German company in Germany, helps gain an insight. But I confess (being as old as I am, and having had numerous near-disasters with rockets as a tenager) I am less interested in this than I once was. As an Mechanical/Electronics Engineer, I am nonetheless still fascinated by the historical aspects of the technology, however.

As far as the rubber suits are concerned, the ONLY place they were EVER used was when piloting the Me 163. The pilots absolutely HATED them! There were also numerous crew and pilot fatalities on the ground apparently as a result of fuelling problems etc. The book I mentioned (Peenemunde West) detailed the severe problems of keeping the H2O2 from contacting anything organic (especially any grease, etc). Boom! Even the containers used to contain the H2O2 had to be scrupulously clean, which cause them huge logistical problems (and numerous explosions).

Compared to this, the hypergolic fuel/oxidizer used in the Wasserfall (Nitric acid and "Visol") was a picnic.

As far as your pictures go, is there any way to post them to the web? Or mail gifs to me?

Well, first, I have no scanner. Secondly, there are so many diagrams that it would take a long, long time to send them! The other thing is that many of them have numbered balloons that point to items in the diagram, and these numbers are referred to in the preceding and following pages of text explanation. So much of the intelligence would be lost.

Regards,

Bob.

---

Message-Id: <199911231723.JAA17772@blazer.intergate.ca>
From: "Bob Wilson" <rfwilson@intergate.bc.ca>
To: Earl Pottinger <earlcp@conpute.com>
Date: Wed, 24 Nov 1999 21:35:27 +0000
Subject: Re: H2O2 comments. -Reply

Hi Earl,

> Thank you for a very informative message. Would you mind if I posted this with my replies to USENET's sci.space.tech, sci.chem?

No problem; feel free.

> I am in fact trying to re-invent the wheel with materials that are publicly available today for anyone. The problem with government programs is that they don't

> always have the same limits on materials, environmental impact, or safety standards as the
common man in the street.

True. Note that all the chemicals I mentioned are, in fact, available however in smaller quantities there may be the problem that they have to be purchased from a Lab Supply company. Thus, the cost will be high, and the purity usually much better than "commercial grade" (which has no particular benefit other than to increase the cost).

In the late 1930s and early 1940s, the Germans (as you know) were working with a large number of H2O2 rocket devices. The most important of these were:

Most of these programs were government programs/assisted.

Actually, ALL were completely government run.

The Walter-Starthilfsrakete HWK109-500. This was a rocket assist for aircraft.

Would you have an URL for this????

Sorry. I got most of this information from a book called "Peenemunde West", which is the area where all rocketry (except the V2) was developed. The V2 (or, more officially, the A4) was developed in Peenemunde Ost (East) not far away.

"Peenemunde West" is not a book in the local library! It may be in the Toronto main library, thanks for the title! Even in german the pictures and diagrams may be useful.

Anyway, this book, by Botho Stüwe, and published in 1995, is about 1-1/2" thick, and is subtitled (when translated) "The research location of the Luftwaffe for long-distance warfare, and its development history". It is a veritable mine of information. It has all kinds of cutaway drawings of all sorts of rockets, engines, aircraft and so on. Some are original, but most are redrawn from the original archives. Each has detailed explanations of how it works, together with all historical details. Also included is all sorts of detail on the guidance systems developed.

That's the good news. The bad news is that it's all in German. It's EXTREMELY well written, however, and seemingly extremely accurate.

If you are interested, the publisher is Bechtle (a well known German publisher), and the ISBN # is: ISBN 3-7628-530-X

The Fieseler "Buzz Bomb" (Fi 103) "Schleuder" (This was the rocket takeoff sled for the Buzz Bomb).

Well live and learn! I was mistakenly believing that this was a steam catapult and never bothered to check. Silly me. :)

You were absolutely correct. It WAS a steam catapult. It just happened that the steam came from a steam generator powered by H2O2.

Now that is really silly of me. I always assume that steam catapults were powered by high pressure boilers.

The Me 163 Rocket plane (both "A" and "B" models)
Yes, I know about them.

The Walter-cycle powered high speed U-Boots (submarines)

I never ran across any detail information on how they worked.

They were a standard Walter Cycle device, with the high temperature exhaust of the combustion, driving a turbine. They could go as fast as 25 KM/H under water (as compared with the average sub that couldn't do half that.

The Henkel He 72 Kadette used the following formulation:

T-Stoff 80% H2O2 (the rest was H2O), pumped into the motor at 150 Bar. A cylindrical catalyst bed was inside the motor containing calcium or sodium permanganate (both were used interchangeably).

Could this be the consumable catalyst that the British are using in their latest designs?

I don't know. However, any permanganate is a standard H2O2 decomposition catalyst.

The Me 163B used T-Stoff of 84% H2O2 (the rest H2O) and fuel (C-Stoff) of 30% Hydrazine Hydrate, 57% Methanol, 13% H2O, and the remainder was the catalyst Potassium Copper Cyanide.

Now this is going a little too far. Did you say Cyanide!!! What would my environmental impact statement look like if I used that! The main reason I am looking into "cooled" silver, or injecting Potassium Permanganate to startup the engine, but then use the heat of the operation to keep it going.

Not all cyanides are that toxic. Still, they are not the sort of thing you want to have for dinner. The main thing is that different catalysts have different rates of reaction. What is needed is solubility in the fuel. Potassium Copper Cyanide is highly ionic and needs a polar "solvent". The Methanol, and the water (above) serve this purpose. Sodium or potassium permangenate are also highly polar salts and should be similarly soluble.

Perhaps this will help you to avoid wasting time reinventing the wheel.

But it is fun doing this.

Well, that's true!

One other thing. Your H2O2 distillation scheme sounds like a nice way to level your garage. It is worth remembering that the Germans specifically avoided using H2O2 higher than 84% since it self detonated at the slightest shock.

No, I think you are wrong! The Germans were in the middle of a war. Their H2O2 was not as pure as it should be, it was being handling in the middle of a war zone, and many of the handlers did not have the needed training or time to take care. Second, a quick read will point out that large scale operations are not to take place at my home, instead I have a cabin up north where I plan to do the work on large amounts, plus I plan to build a special lightly covered pit to store it in.
They were in the middle of a war, alright, but they spent huge amounts of money on this, even
to the point of constructing huge underground electrolysis-purification installations for H2O2
that never saw any bombing until the very end.

The book above had a fair amount of space devoted to H2O2 synthesis, and it clearly goes into
the problems they had. Purity was not the problem. If there was any problem, it was that they
had not fully developed effective inhibitors that are now added to the "high test" stuff to keep it
from doing nasty things.

> >Even the 80 to 84% stuff was as dangerous as hell. Many Me 163s that made a rougher
than usual landing, had the small residue of H2O2 in their tanks blow the
> >plane (and the pilot) to pieces.

> >And again that was very dirty H2O2 by peace time standards.

Apparently this is not so.

> >Another thing. 80% H2O2 is nasty stuff. Me 163 Pilots had to wear head to toe neoprene
suits. Even then, since the shutoff valves were in the cockpit and
> >sometimes leaked, the result was often a skeleton with no skin of other organs left, sitting in
the cockpit. This is not trivial stuff you are playing with.

Please note that I am *NOT* saying that high purity H2O2 is not dangerous - it is! I am just
saying that the suits the pilots were wearing is for more than just the H2O2. As you seem to
have very detailed knowledge on the German's design I hope you join any discussions on
SCI.SPACE.TECH!

> I request that you find even one documented case of this! I have already tried experiments
with 60% H2O2 and pieces of flesh from myself. And the H2O2 does
> not dissolve flesh on that time scale. Yes, it is dangerous, and burns like hell on your skin.
But it does not dissolve flesh in it's self. Instead I suggest you take
> a look at the fuel mixtures used. You can tell me those were very safe.

The skeleton thing is something that I have read at different times, and assumed to be correct.
It, in fact, may be an exaggeration. Nonetheless, it is historical fact (I even saw film of it on a
TV documentary, to say nothing about its being in many old aviation books) that all Me 163
pilots wore neoprene body suits. The plane was known as a "widow maker". I have also seen a
number of films showing Me 163s exploding as they hit the ground (when attempting a
seemingly normal landing on their skids).

Looking at an Me 163 up close is rather interesting. It is bloody small!! There is one in the
Deutsches Museum in Munich, and another in the Museum of flight in Ottawa. You wouldn't get
me in that thing! Especially with the H2O2 pipes and valves right beside you!

The engine itself is astoundingly small. You could easily pick it up with one hand (one hangs at
eye level as you walk by it at the Deutshes Museum).

Another thing of interest at the Deutshes Museum, is the V2 rocket. It stands vertically inside,
with a spiral staircase winding around it that connects several floors of the museum. The rocket
itself is sectioned, so you can see everything inside. Fascinating; the museum is huge (it would take a week to see it all). I have some good photos I took on a number of visits there.

As far as your pictures go, is there any way to post them to the web? Or mail gifs to me?

Bob.

Earl Colby Pottinger

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Message-ID: <001c01bf36d0$1cbebca0$dca190cc@0015771985>
From: "Connie Steiert" <steiert@vail.net>
To: "Earl Pottinger" <earlcp@conpute.com>
References: <s83c119c.013@conpute.com>
Subject: Re: Valves
Date: Wed, 24 Nov 1999 16:03:19 -0700

Did you get propep/guipep figured out? Not to bother you, I was just curious.

Thanks for your help,
Dak Steiert

Funny you asked. I just spent a couple of hours yesterday trying to get it to work. No dice, and I can't remember what I did to get it to work before! I know that it worked because I did not find it useful at the time and I needed to turn it off!

Earl Colby Pottinger

---

Message-ID: <199911240541.VAA11060@vector.intergate.ca>
From: "Bob Wilson" <rfwilson@intergate.bc.ca>
To: earlcp@conpute.com
Date: Tue, 23 Nov 1999 22:44:52 +0000
Subject: H2O2 comments.

Thank you for a very informative message. Would you mind if I posted this with my replies to USENET's sci.space.tech, sci.chem?

>>> "Bob Wilson" <rfwilson@intergate.bc.ca> 11/23/99 05:44pm >>>
> Hi,
> Just happened upon your website and thought you could use a little historical data. Might save you from the reinventing of the wheel that you seem to need to be doing.

I am in fact trying to re-invent the wheel with materials that are publicly available today for anyone. The problem with government programs is that they don't always have the same limits on materials, environmental impact, or safety standards as the common man in the street.

>In the late 1930s and early 1940s, the Germans (as you know) were working with a large number of H2O2 rocket devices. The most important of these were:

Most of these programs were government programs/assisted.
The Walter-Starthilfsrakete HWK109-500. This was a rocket assist for aircraft.

Would you have an URL for this????

The Fieseler "Buzz Bomb" (Fi 103) "Schleuder" (This was the rocket takeoff sled for the Buzz Bomb).

Well live and learn! I was mistakenly believing that this was a steam catapult and never bothered to check. Silly me. :)

The Me 163 Rocket plane (both "A" and "B" models)

Yes, I know about them.

The Walter-cycle powered high speed U-Boots (submarines)

I never ran across any detail information on how they worked.

....and numerous other more minor projects.

True.

In some cases, they used high concentration H2O2 as an oxidizer, and a separate fuel that had the catalyst already mixed in it. Here is a list of the formulations:


>1. T-Stoff. This was the H2O2 in various concentrations (see below)..  
>2. Z-Stoff. This was the catalyst (see below)  
>3. C-Stoff. This was one type of fuel, with catalyst dissolved (see below) and was used only on the Me163B.  
>4. B-Br-Stoff. This was another type of fuel-catalyst, used only on the aircraft "Starthilfe" booster.

Do you know what the active ingredient in #4 was?

The "Cold Walter" rockets operated only on decomposition of H2O2.

>1. The Henkel He 72 Kadette used the following formulation:
   > T-Stoff 80% H2O2 (the rest was H20), pumped into the motor at 150 Bar. A cylindrical catalyst bed was inside the motor containing calcium or sodium permanganate (both were used interchangeably).

Could this be the consumable catalyst that the British are using in their latest designs?

>2. The same fuel/oxidizer combination as above, but with a somewhat different catalyst bed arrangement was used in the FW 56 "Stößer", the He 112R and He 176, the first generation Me...
163 (Me 163A), the first generation "Starthilfe" booster, and the Fi 103's launch sled.

Thanks for the info.

> The "Hot Walter" rockets used the following formulations:

> 3. The second generation Starthilfe booster used T-Stoff of 80% H2O2, with B-Br-Stoff, a fuel consisting of Hydrazine Hydrate, 7.6% "Petroleum" (i.e. Gasoline), and 4.4% potassium permanganate in "solution" (the texts state "Lösung" which means "solution").

Ahhh! You answered my question from above.

> 4. The Me 163B used T-Stoff of 84% H2O2 (the rest H2O) and fuel (C-Stoff) of 30% Hydrazine Hydrate, 57% Methanol, 13% H2O, and the remainder was the catalyst Potassium Copper Cyanide.

Now this is going a little too far. Did you say Cyanide!!! What would my environmental impact statement look like if I used that! The main reason I am looking into "cooled" silver, or injecting Potassium Permanganate to startup the engine, but then use the heat of the operation to keep it going.

The reason I don't want to keep pumping Potassium Permanganate catalyst can be found at http://www.connect.ab.ca/~holonar/kerameiki/elke/BlodArt.htm

> Perhaps this will help you to avoid wasting time reinventing the wheel.

But it is fun doing this.

> One other thing. Your H2O2 distillation scheme sounds like a nice way to level your garage. It is worth remembering that the Germans specifically avoided using H2O2 higher than 84% since it self detonated at the slightest shock.

No, I think you are wrong! The Germans were in the middle of a war. Their H2O2 was not as pure as it should be, it was being handling in the middle of a war zone, and many of the handlers did not have the needed training or time to take care. Second, a quick read will point out that large scale operations are not to take place at my home, instead I have a cabin up north where I plan to do the work on large amounts, plus I plan to build a special lightly covered pit to store it in.

> Even the 80 to 84% stuff was as dangerous as hell. Many Me 163s that made a rougher than usual landing, had the small residue of H2O2 in their tanks blow the plane (and the pilot) to pieces.

And again that was very dirty H2O2 by peace time standards.

> Another thing. 80% H2O2 is nasty stuff. Me 163 Pilots had to wear head to toe neoprene suits. Even then, since the shutoff valves were in the cockpit and sometimes leaked, the result was often a skeleton with no skin of other organs left, sitting in the cockpit. This is not trivial stuff you are playing with.

I request that you find even one documented case of this! I have already tried experiments with...
60% H2O2 and pieces of flesh from myself. And the H2O2 does not dissolve flesh on that time scale. Yes, it is dangerous, and burns like hell on your skin. But it does not dissolve flesh in its self. Instead I suggest you take a look at the fuel mixtures used. You can tell me those were very safe.

Bob.

---

Message-ID: <000b01bf33d7$35967020$9819003e@pis>
From: "shafik karra" <shafik@p-i-s.com>
To: <earlcp@conpute.com>
Subject: hi
Date: Sun, 21 Nov 1999 06:16:33 +0200

can we use hydrogen peroxide for dirty wounds, trauma cases, fractures, abscese...
please inform me about it...
shafik karra

Yes you can in some cases, but you need medical quality peroxide which is only 3-5% peroxide in water and has nothing to do with rockets which is what I am dealing with. If you go to the FAQs on my site you will find links to MSDSs and chemical sites that may help you. Also try the search engines out there. I had to reject a lot of medical sites when I was developing my links page.

Earl Colby Pottinger

---

Message-ID: <003a01bf3395$cda43e20$89039fc1@Noname>
To: "Earl Pottinger" <earlcp@conpute.com>
Subject: Re: hi -Reply
Date: Sat, 20 Nov 1999 21:21:53 +0100
From: phichrist@t-online.de (Philipp Christ)

Thanks for these sites, I already knew them....sorry but you are right, I´ll try to build one, I have much time....
  bye
  phi

---

Message-ID: <000901bf3203$6a7052a0$6fe19e3e@Noname>
To: <earlcp@conpute.com>
Subject: hi
Date: Thu, 18 Nov 1999 21:28:03 +0100
From: phichrist@t-online.de (Philipp Christ)

I read of your project on your really good website, I would like to know , Perhaps I´ll also try to build a H2O2 Rocket one day, how to get the designs, I mean how you know which diameter the whole thing must have...where do I get these equations from? Perhaps there excist also
German ones, I come from Germany, but we do not use inch.....so I can’t really use them, it is too different.... Perhaps you could give me advice, I’m only planing to make a plan or design, in a few years, probably, I’ll build it, don’t know.. I’m still a student (17 years...)

bye, phi

Hi,

As far as I know there is only one design available, try http://www.total.net/~launch/ for a gasoline and peroxide rocket. That is the only H2O2 commercial rocket available for personal use that I can find.

As far as size is concerned I am just guessing and using what is locally available. I was not joking about expecting to blow up a few engines. When it becomes time to build a larger design http://www.im.lcs.mit.edu/rocket/ is a useful site for the math needed. You can also find addition URLs if you scroll down the links page on my site.

Sorry about the use of inches. Canada is now metric, but only for about 25 years. Many old standards are still in inches and feet. When I start building custom designs I will be using metric measurements.

Your age does not matter. Nor does the fact that you are a student. All that matters is that you take your time and think/study ahead of building anything. Plan for the worse accidents that can take place, and learn from your mistakes. In time you will find that you can develop whatever you want.

Good Luck and take care.

Earl Colby Pottinger.

PS. Having money to buy parts helps too :)

Do you have a problem with the copper at the end of the rocket oxidizing in the oxygen/temperature rich environment. Does this affect the strength of the walls?

Thanks
Layton Duncan
(lduncan@ihug.co.nz)

Hello,

So far I have only used up to 60% H2O2, thus I have not ran any designs much over the boiling point of water. I have seen some minor oxidation on the copper, but it is very thin and does not affect the copper otherwise. Future designs depend heavily on the cooling film of
H2O2 flowing on the outside of the combustion chamber, the nickel coatings on the inside of the chamber and one side of the catalyst plates/tubes. The higher temperature of the copper that makes up the combustion chamber does affect it's strength but because it is inside a pressurized cooling jacket it does not need walls that can hold in the full operating pressure.

Earl Colby Pottinger

Message-ID: <38308617.416957EA@vail.net>
Date: Mon, 15 Nov 1999 15:15:51 -0700
From: Connie Steiert <steiert@vail.net>
To: earlcp@conpute.com
Subject: Propep/Guipep

I downloaded your propep (and propep from two other sites, along with guipecp) and I have been trying to make it give me the results (in graph or whatever form). However, all three propep/guipeps I've downloaded have told me that they can't find print.txt, and precede to open up my notepad, without writing anything on the notepad, how can I fix this problem, and view the results? Any help is GREATLY appreciated.

Thanks

Hello,

I know I had a problem at first making it work too! I think I had to modify a txt file to point to the right hard drive. At the same time I believe the needed directories must be in the root of the hard drive. I have to read the instructions myself to check. Please give me a day or two!

Earl Colby Pottinger

Message-Id: <3516843E9AE5D011948200805FA714600221C22A@milcmsgd.qntm.com>
From: Bill Clawson <Bill.Clawson@quantum.com>
To: "'earlcp@conpute.com'" <earlcp@conpute.com>
Subject: Hydrogen Peroxide as an engine coolant
Date: Tue, 9 Nov 1999 18:36:54 -0800

Hi Earl,

You have a great web page about H2O2 rockets, but I was a little take aback when you were considering a design using the H2O2 as a coolant. My concern was that the H202 may decompose in the cooling jacket because of the high temperature. Is this a valid concern?

Best Regards,

Bill

Yes,

This is not only a valid concern, but is also something I am doing on purpose! As you probably realize the higher the temperature of H2O2 the faster it tends to decompose even if it
is in contact with a catalyst or not. However, the higher temperature the better catalyst tends to work. As I have also decided to move away from a design that tries to decompose 100% of the H2O2 before I mix it with fuel it becomes more important to make it as warm as possible to aid burning.

To try and prevent full decomposition occurring in the cooling jacket where it would affect it's heat sinking, a very fast flow of H2O2 must occur so that it does not have enough time to break down. This will require experiments, and yes I do expect to end up blowing up a motor or two. The point is H2O2 can be used to cool the rocket if the flow is high enough to prevent the H2O2 from overheating.

Earl Colby Pottinger

---Original Message Follows----

Thank you for your message. I will try and look into what is available here in Canada very soon, and your help may turn out to be very useful. I would like to know. How unstable is unstable when talking about C3H4, surely not as bad as C2H2?

Earl Colby Pottinger
How do you remotely open your valves?

Up to now I have been manually opening them, in the future with more concentrated H2O2 and higher pressures I will need valves opened by motors.

I will probably use geared down DC motors with encoder wheels to tell what position the valve is in.

From: Tri3333333@aol.com
Message-ID: <0.a14f933a.25490f92@aol.com>
Date: Wed, 27 Oct 1999 22:31:46 EDT
Subject: dessication
To: earlcp@idirect.com

I am enjoying your web site and am interested in H2O2. You had a suggestion listed in your journal about using sulfuric acid to draw water out of weak H2O2 increasing its concentration. Have you tried this and, if so, did it work? I live in the US (Ohio) and am finding it hard to get H2O2 over 12%. You also mentioned that you had a source of 30% H2O2 for about a $1.00 a liter. Is that a chain store we may have in the US? if you are still trying to get Duram's rock hard putty maybe we could trade. I can get all you would ever need. Keep updating the page. Good Work

Thank you
Roy Miller

Thanks for the offer for the Durham Rock Putty. However, none of my recent designs require it. As for the H2O2 I get it from a local water treatment supplier, you could consider looking there as I see problem shipping across the border chemicals like H2O2. Think what customs will say!!! I have not tried the experiment with sulfuric acid but see no reason why it would not work.

Earl Colby Pottinger
Hey, Earl,

I had a lot of fun reading your website (especially the part concerning girls, spare time and blues :-)). I'm a chemist, being currently at the Radiation laboratory of the University of Notre Dame. To disappoint you somewhat, I'm not a rocket scientist, but if you feel, I could help you with some information, please, don't hesitate to ask me. Naturally, I cannot promise you, that I can answer all your questions.

Did you for instance think about using a car catalyst (which contains Pt and Rh) or some freshly prepared and therefore highly active MnO2?

Regards,
Micha.

Hello,

I will be updating my site soon to show my latest designs. I have decided to use a solution of Potassium Permanganate in water that enters the combustion chamber by way of the fuel injector. I hope to have this built by the end of the year. Thanks for the message.

Earl Colby Pottinger
of Potassium Permanganate in water that enters the combustion chamber by way of the fuel injector. I hope to have this built by the end of the year. Thanks for the message.

Earl Colby Pottinger

---

Message-ID: <37FF7583.D65DCC41@stormnet.com>
Date: Sat, 09 Oct 1999 10:04:03 -0700
From: Raymond Gage <gagefam@stormnet.com>
To: earlcp@idirect.com
Subject: Re: H2O2 Deja News Links gone bad

I enjoy your web pages greatly, however, it seems that your Deja News Links to your favourite pages have gone bad. They all try to go to '/~earlcp/messages/M1000.HTML' which gives a 'file not found' error. I hope you can get the links working again or at least email the actual URL's.

Regards
Raymond Gage

---

Message-ID: <37FF775E.D9D2803F@stormnet.com>
Date: Sat, 09 Oct 1999 10:11:58 -0700
From: Raymond Gage <gagefam@stormnet.com>
To: earlcp@idirect.com
Subject: Re: H2O2 and Last message.

My apologies, but I just noticed a small error in my previous email. I stated that the URL '/~earlcp/messages/M1000.HTML' was being queried for all of your deja vu links, but after closer inspection I noticed that it should be '/~earlcp/messages/M1XXX.HTML' with the XXX changing for each address. Just didn't want to give you bad debug info.

Regards,
Raymond Gage

---

Thank you for telling me about this error. That section has worked for so long that I had not checked it in a long time. I just assumed it worked. The problem is now fixed, I hope you can find useful information there for you. I hope to start with some real rocket work soon and supply more updates.

Earl Colby Pottinger

---

Message-Id: <3.0.6.32.19991002185326.0083a7a0@rockies.net>
Date: Sat, 02 Oct 1999 18:53:26 -0700
To: earlcp@idirect.com
From: Viva Cundliffe <gomaster@rockies.net>
Subject: H2O2 in the atmosphere

Dear Mr. Pottinger,

---

Do you have any literature that describes the breakdown of H2O2 in the upper atmosphere?

Viva Cundliffe

Sorry, I don't as I have only been studying H2O2 use in rockets.

Earl Colby Pottinger

EMAIL to Earl Colby Pottinger
The Hydrogen Peroxide EMail Pages  
September 1999

Message-ID: <EBC089F12684D211AF5600A0C9DEFB770186A363@cvex04.cv.hp.com>  
To: earlcp@idirect.com  
Subject: H2O2 webpage  
Date: Tue, 28 Sep 1999 12:04:44 -0700

Do you mean NO2 (very active and dangerous) or the more benign N2O for an oxidizer. NO2 (or N2O4) should not be used by anyone except the most experienced.

Bill

A point that I must check out and update on my pages. All the pages I see or reference say oxide not dioxide so I have always assumed N2O. I must double check this! Thanks for the pointer.

Earl Colby Pottinger

Message-ID: <37F06AA0.41BAE7F2@thefaultline.net>  
Date: Tue, 28 Sep 1999 00:13:36 -0700  
From: We <rrgp@thefaultline.net>  
To: earlcp@idirect.com  
Subject: Your HTP Site

Interesting Ideas, Earl. I see the passion of your interest. That is a good thing. Building rockets is liking doing amateur brain-surgery, on yourself. If you are successful, great. If you fail, you may choose "Bambi" over "Fifth Element" as your favorite movie, or worse (is there any worse?, yeah, an Ed Wood or two) The more intelligent the person, the less likely they are to accept safety cautions and the more immortal they feel. I appreciate your personal attitude, you offer many admonishments to "be careful" but I don't see a FAQ on your site which deals with the single most important phase of rocket motor testing, SAFETY. If I have lost your attention at this point, then my words fall on indifferent audio sensors, if this strikes a resounding chord, then please e mail me and perhaps I can assist you with safety tips from my >50 years in rocket propulsion. (another note, nearly all the E Mail posts with technical assertions have at least one error in them. This points up the fact that your entire collective needs some guidance) I really can't give you much time, but I will offer at least some safety guidance.

Bill Colburn

I am all ears or eyes for your words of guidance.

First, if you have noticed, at no time have I yet processed a large amount of peroxide as I know I am still learning and I am still making mistakes. Also it has almost been a year since I first
started working on this and I still have not done a high pressure run (over 100PSI). This is no accident. I am working at home where my brother in a coma from a drunk driver. If something were to go wrong moving him and all his equipment out in time would be hard.

I am in no hurry to fly a rocket. And am willing to spend the time and money to do it right.

The reason you see so many messages recorded is to prevent the guidance of an "EXPERT" misleading others. The turth is available to anyone who is willing to sit down and read it all including the MSDSs.

If you would like to write a long message listing the mistakes that others are making I will be willing to add it to my site. And I am happy to learn new things anytime, so yes I assure I will personally read anything you send me to help me in my work.

Thank you for your time and I hope to hear/see from you soon.

Earl Colby Pottinger

Message-ID: <19990916215037.42535.qmail@hotmail.com>
From: "Jon Main" <tarzan18@hotmail.com>
To: earlcp@idirect.com
Subject: C3H4
Date: Thu, 16 Sep 1999 14:50:37 PDT

Hi,

C3H4 can exist in two states. The first is a chain alkene in which the carbon atoms are joined by double bonds. This is known as 1,2 propene. The other state is a cycloalkene in which the carbon atoms are bonded in a ring formation and in which one of those bonds is a double bond. This is known as cyclopropene. It is unstable and likely to be VERY expensive but would make an even better rocket fuel because of torsional strain of such a small ring and its likeliness to be very reactive. I suspect that 1,2 propene could be found for a decent price from chemical distributors.

Jon Main

Thank you for your message. I will try and look into what is available here in Canada very soon, and your help may turn out to be very useful. I would like to know. How unstable is unstable when talking about C3H4, surely not as bad as C2H2?

Earl Colby Pottinger

The Hydrogen Peroxide EMail Pages
August 1999
Earl!

Haven't talked to you for quite some time, but I've just checked out your web page, and it looks like you've made quite a bit of progress!

I've started my work on manganese plating, and will begin testing the plating process next week. I've still got the gallon of 50% in my deep freeze. It's not decomposed at all over the past 2 months, so if you get to the higher concentrations in your distillation, a freezer would preserve the higher percentage H2O2 for quite some time!

There's an interesting thread developing on rec.models.rockets which involves H2O2. It's titled "Cleaning RMS - H2O2"... I've contributed already, and you may want to have a look! :) 

Earl, please feel free to publish anything I've written to you. I've noticed that you've got several sections labeled "Waiting for permission to publish"...

This communication will serve as permission... please publish, as I think we may be on to a nifty propulsion system here!

Take care... be careful!

Tod A. Hilty
NAR #72099
Hilty Information Systems

Hi.

My name is Sean Rowe I live in Australia and have built a similar type of motor but it uses N2O instead of H2O2. To seal the end closures I have used o-rings and I used aluminum tubing as the casing. I use grub screws to hold in the two closures. I have also sent you some photos. I am using cream whipping charges as my supply of N2O. The engine burns for about 2.5 seconds and produces an average thrust of 14.4 pounds. Hope I have helped. Let me know how you go.
Newsgroups: rec.models.rockets
Subject: Re: Rocket Engines
Date: Wed, 02 Jun 1999 22:02:48 -0400
Message-ID: <3755E248.48FE383B@mindspring.com>
References: <7j1iu2$qgf$1@utah.laird.net>

Richard,

Try these sites for a start. If you have additional questions, email me privately. Remember this is supposed to be fun, and pain is no fun. Safety first!

Philip

http://members.aol.com/ricnakk/index.html
http://www.space-rockets.com/Cptechno.html
http://www.missileworks.com/PASA.htm

Richard Kennedy wrote:

> Does anyone here know how to make their own rocket engines? I was told to use the potassium nitrate, sulfur and sugar
> combo. To what ratio? does anyone know? Thanks in advance Rick

--------------------------------------
Visit Rocket Stuff! Webstore
http://www.rocketstuff.com
pdoolittle@rocketstuff.com
--------------------------------------

Date: Thu, 10 Jun 1999 09:32:27 -0600
From: Juan Manuel Lozano <jmlozano@spin.com.mx>
To: earlcp@idirect.com
Subject: B chi Rotavapor « Model R-3000

http://www.brinkmann.com/evap_R3000.html

The parts at the left are the condenser and the crushed ice did the same job, just look at the price!

Date: Thu, 10 Jun 1999 09:11:45 -0600
From: Juan Manuel Lozano <jmlozano@spin.com.mx>
To: earlcp@idirect.com
Subject: still for H2O2

Hi Earl, this is the still you can use to make your H2O2 with this you will be able to make 80-82% H2O2, this is a very rudimentary rotovapor, this is done in pyrex glass and you can make it any size, you can buy two pyrex bowls about one liter each and weld a glass tube to the necks, this can be done in the places that fixes laboratory equipment or if you have a torch you can learn how to do it, you can practice with glass bottles of any type just to practice. when you have your two flasks connected you can fill one with the H2O2 solution pouring it from the vacuum port, you will apply vacuum before you start your heating process and then you will heat the flask with water to 70ºC and rotate back and forth the flasks, this is a rotovapor you can search in the web about the rotovapor. With this simple apparatus you will produce enough H2O2 for all your rocket tests and fly. This is not an idea, this has been tested and works! Hope this will be useful for you.

Juan Manuel
Earl, this is a rotovapor, the motor only serves to rotate the tube and that’s it.
Hello,

I just got back from vacation. I will check and make sure that I have a link to your site in my space tech links.

Earl Colby Pottinger

On Wed, 19 May 1999, andy wrote:

> nice to read the information on your web page i have a peroxide rocket car on my site if you want to have a look also, there is some links you might be interested in
> andy
> http://www.urwin.enta.net
> andy@urwin.enta.net
> Telford, Shropshire, England

Date: Tue, 1 Jun 1999 00:45:22 -0400 (EDT)
From: Earl Pottinger <earlcp@idirect.com>
To: Graham Addis <GrahamAddis@lucent.com>
Subject: Re: Commercial HTP rockets?
Message-ID: <Pine.BSI.4.00.9906010040480.13668-100000@hometown.idirect.com>

Hello,

No, at the present moment I know of no-one making a commercial HTP only rocket. A number of people (3) have to told me that they are trying to design/build/sell such engines, but none are ready for sale.

The gasoline/H2O2 rocket does not seem safe to use for your use. If I heard different I will try to send you a message.

Earl Colby Pottinger

On Thu, 20 May 1999, Graham Addis wrote:

> Earl,
> Thanks for providing information on the HTP rockets that you are making.
> Do you know anybody who is producing any commercial rockets?
> I'm currently learning paragliding and I thought it was a reasonable idea to use one of these rockets to get you up.
> to a thermal and then turn it off. Currently there are
At the present moment all I know about H2O2 rockets can be found on my website http://webhome.idirect.com/~earlcp if you can't find it there I don't know it. Just follow all the links and learn. Yes, I know it is a lot of work, but I am still learning.

Earl Colby Pottinger

On Thu, 20 May 1999, T_PENNY wrote:

> Dear person who knows about hydrogen peroxide rockets,
> I am interested in rockets of all kinds especially hydrogen peroxide rockets please send me information on the setup and launching of the hydrogen peroxide rockets.
>
> Tom Penny at dene magna school
> T_PENNY@DENE-MAGNA.gloucs.sch.uk

Earl Colby Pottinger

On Fri, 21 May 1999 CAPsgt312@aol.com wrote:

> Ok my name is mike, I have built model rockets for years but they are extremely boring, I have been trying to learn how to design my own, I know how supersonic nozzles work and basic dynamics of a rocket. I have been trying to build a basic solid propellant rocket but they explode every time, I have figured I need a place to start. I need to copy a rocket but there are no plans anywhere, whenever I do a search all it comes up with is "A teachers guide to..." or "h20 rocketery". I was wondering if you knew of a book, a site or even had a schematic drawing of one I would love to hear from you

Earl Colby Pottinger

On Tue, 25 May 1999, Juan Manuel Lozano wrote:

> Maybe you will find some useful information in my web site as well as

The Hydrogen Peroxide EMail Pages
May 1999

From: dy379@FreeNet.Carleton.CA (David Lamothe)
Newsgroups: sci.space.tech
Subject: Plug Nozzels??
Date: 29 May 1999 20:34:39 GMT
Organization: The National Capital FreeNet
Lines: 27
Approved: sci-space-tech@isu.isunet.edu
Message-ID: <7ipj0v$jpv@freenet-news.carleton.ca>
Reply-To: dy379@FreeNet.Carleton.CA (David Lamothe)
To: sci-space-tech@moderators.isc.org

Was reading an article on the web a week or so ago, it was about an SSTO called the BETA.
The design consisted of 20-24 small liquid rocket engines arranged in a circle around a structure called the plug nozzel (which also doubled as heat shield).
If I understand it correctly it use the same principle of operation as the AEROSPIKE engine.
My question is, any one know where I could find more information of the Plug Nozzle, such as how the shape, size and curvature are determined.
Searches on Lycos and AltaVista have turned up a bunch of stuff (including a how-to fistng site), but no furthur information on this type of nozzel.
Any leads would be appriecated.
TIA

David

---

David A. Lamothe: Ottawa-Based Independent Computer Contractor.
Computer Technician, User Support, Data Operator, Etc...
Member of HWG.
dy379@freenet.carleton.ca http://www.ncf.carleton.ca/~dy379/resume.html

Jonathan Goff

"America goes not abroad in search of monsters to destroy. She is the well wisher to the freedom and independence of all." -- John Q. Adams

Date: Thu, 20 May 1999 13:52:51 +0100
From: Graham Addis <GrahamAddis@lucent.com>
To: earlcp@idirect.com
Subject: Commercial HTP rockets?

Earl,

Thanks for providing information on the HTP rockets that you are making.

Do you know anybody who is producing any commercial rockets?

I'm currently learning paragliding and I thought it was a reasonable idea to use one of these rockets to get you up to a thermal and then turn it off. Currently there are paramotors which are small engines, with a propellor, which you strap to your back.

Any info or ideas would be appreciated.

Good luck,

Graham

Date: Thu, 20 May 1999 16:06:52 +0100
From: T_PENNY <T_PENNY@dene-magna.gloucs.sch.uk>
To: earlcp@idirect.com
Subject: Commercial HTP rockets?

Dear person who knows about hydrogen peroxide rockets, I am interested in rockets of all kinds especially hydrogen peroxide rockets please send me information on the setup and launching of the hydrogen peroxide rockets.

Tom Penny at dene magna school
T_PENNY@DENE-MAGNA.gloucs.sch.uk

Yes, I do! I will try and send you URLs tomorrow!  

Earl Colby Pottinger

On Fri, 21 May 1999 CAPsgt312@aol.com wrote:

> Ok my name is mike, I have built model rockets for years but they are
> extremely boring, I have been trying to learn how to design my own, I know
> how supersonic nozzles work and basic dynamics of a rocket. I have been
> trying to build a basic solid propellant rocket but they explode every time,
> I have figured I need a place to start. I need to copy a rocket but there
> are no plans anywhere, whenever I do a search all it comes up with is "A
> teacher's guide to..." or "H20 rocketery". I was wondering if you knew of a
> book, a site or even had a schematic drawing of one I would love to hear
> from you

On Tue, 25 May 1999, Juan Manuel Lozano wrote:

> Maybe you will find some useful information in my web site as well as
> the Arvil Porter's site about hydrogen peroxide rocket engines, the
> link to Arvil's page is also on my web pages under "LINKS"

> Sincerely

steve wrote:

> Has anyone had experience of bonding Polyethylene tube? I'm trying to
> bond it to itself and some foamed PVC fins.
> 
> Steve

Hey Steve,

A couple of years ago I visited some family out in South Dakota. They're all cattle ranchers out there and had a lot of equipment that incorporated PE; tanks, skirts, flaps and the like. A lot of ATVs as well that broke fenders pretty regularly. One of them had a "Plastic Welder" that I did not see used but they claimed it worked okay. I searched on Lycos and found this:

http://urethanesupply.com/atv.htm

which looks pretty neat.

If you try it out, let me know, okay?

--

Bob

http://www.fortunepaint.com/rockets.htm for all the other stuff

---

The Hydrogen Peroxide EMail Pages
April 1999

From earlcp@idirect.com Fri Apr 30 00:55:17 1999 -0400
Date: Fri, 30 Apr 1999 00:55:16 -0400 (EDT)
From: Earl Pottinger <earlcp@idirect.com>
To: slisch@computer.org
Subject: Re: About the cooled rocket engine
In-Reply-To: <37278E48.60E34BE5@telusplanet.net>
Message-ID: <Pine.BSI.4.00.990430043004820.29070-100000@hometown.idirect.com>

In the future I plan to use more expensive materials that can take the temperature, but at present I am using copper because it is cheap, available, easy to shape and easy to cool. In the future I plan to use carbon/carbon designs after I have debugged preset ones.

Earl Colby Pottinger

On Wed, 28 Apr 1999, David Alisch wrote:

> Hi
> I'm a 4th year mechanical engineering student at the University of
> Calgary.
> I too am building a rocket engine. I am using H2O2 as an oxidizer, and
> I am thinking of using 2 fuels, perhaps dimethyl ether and a higher
> grade gasoline. I am curious as to why you want to cool the outer
> sleeve? Looking at PV = nRT, if you lower any of the internal
> temperature, the pressure will drop too, and you ultimately want a high
> pressure in your diverging nozzle.
> Please reply

Hi Earl!

I haven't talked with you for a bit!

I'm now the proud owner of a gallon of 50% H2O2, which is comfortably waiting in the back of my deep freeze for appropriate testing conditions. Yes, yes I know about keeping H2O2 in a "food" freezer, but our deep-freeze is rarely visted, and a chemist I know mentioned that "below-freezing-temps" were the best way to keep HTP for "longer" periods of time. 50% freezes at -67F, so I don't think we'll run into any trouble with the bottle bursting! My wife did notice the bright yellow "Oxidizer" sticker on the jug, and asked me what the hell I was doing. After a short explaination, she agreed to the storage provisions. Hehe, I knew I married the "right" woman from the getgo!... she's amazingly tolerant of my science!

Now on to the "meat" of my message. Have you gotten any further with MnO2 as a catalyst? The reason I'm wondering is that we may have a better method at our disposal of creating a nice catalyst bed. My question... do you know if it's the _entire_ compound that's responsible for the catalyizing effect, or just the manganese? If it's just the manganese, it's possible that we may be able to electroplate pure manganese onto a stainless steel "pot-scrubber" with nothing more than a dilute solution of nitric acid, a chunk of decent manganese, and a 12 volt car battery!

Manganese may be the ticket.

I'd still like to stick with a liquid oxidised, solid fueled hybrid as opposed to a dual liquid setup. Reason being is that weight would be reduced, control hardware, and circuits would be reduced, and general saftey would increase. This'd be a major boon to using an H2O2 hybrid in amateur rocketry. Problem is, that auto-ignition, I think, would not be possible with 50% as the concentration as the reaction _just_ won't produce enough heat. Unless of course, the "fuel" could be made to ignite at a lower temp. Dunno, I'm still looking at that one.

Nevertheless, I'm going to keep charging forward with this hybrid idea After our little incident in the states (Columbine HS, in Colorado), I'm pretty sure we're not going to see the Bureau of Alcohol, Tobacco, and Firearms (BATF) become _less_ restrictive on our hobby.

Take care!
Tod A. Hilty
Hilty Information Systems
NAR #72099

---

From: gherbert@crl3.crl.com (George Herbert)
Newsgroups: sci.space.tech
Subject: Re: Small Engine Cooling?
Date: 6 Apr 1999 12:56:14 -0700
Organization: Retro Aerospace
Message-ID: <7edosu$noe@crl3.crl.com>
References: <3704570B.8875F46D@qnet.com> <19990406103252.04964.00002510@ng-ch1.aol.com>

GRADinc <gradinc@aol.com> wrote:

Doug Jones
>>> Robert Lynn
>>> >>> LOX/Kero engines start to be impractical below a certain thrust level, there is insufficient cooling potential ...
>>> >>> once you get down below about 3000N thrust
>>> >>> Why is this? The energy/mass of the fuel is the same regardless of the thrust level.
>>> Square-cube law. A small engine has more of the combustion gases in contact with the wall.
>>> I still don't see it. The thrust is subject to the same law, so for the same pressure the nozzle area is proportional to the thrust. Thrust, it seems to me, then goes as the square and thus the fuel consumption also goes as the square. If the shape of the rocket is the same, then the wall area also goes as the square so all the squares seem to cancel. Could it be that the smaller rocket must have a different shape?
>>> Longer combustion chamber in proportion to throat diameter, that sort of thing?

Your analysis is missing some crucial data, which is that yes, smaller rockets need different shapes than larger ones have.

There is a quantity called L* or specific length of a combustion chamber in a liquid fuel rocket motor. L* is defined as chamber volume / throat area, and is largely set by the fuel and oxidizer combination (how fast to they burn together). Typical values range from 25 to 45 depending on propellant combination. They don't change with scale of motor.

If we neglect a whole lot of geometry and simplify a bit, you can see an example of the effect of this pretty easily. Let's pretend we have a series of scaled motors burning LOX/Kerosene with L* of 35 and say chamber pressure (Pc) of 1,000 psi. Say we have a small motor, with a 2" diameter nozzle throat. This motor will in rough terms have 3.14 square inches of throat area and a bit under 4,000 lbs of thrust at sea level typically. For L* of 35, we need to have 35*3.14 or 110 cubic inches of chamber volume. If the chamber diameter is twice the nozzle throat diameter (4") then chamber length is about 10 inches and chamber wall area is roughly around 120 square inches, about 33 lbs thrust per square inch of wall area.

If we have a larger motor with a 20" diameter throat, it has 314 square inches of throat area, and a bit under 400,000 lbs thrust at sea level. Again with L* of 35, and a chamber twice as large in diameter as the throat, chamber volume is now 11,000 cubic inches and chamber length around 35 inches. That gives you a surface area of around 4,400 square inches or about 91 lbs thrust per square inch of wall area. Heating rates are constant given a propellant combination and chamber pressure (roughly), so the small motor has around 3 times the heat energy going into the walls per lb of propellant (and coolant) as the larger engine does.

-george william herbert
Retro Aerospace
gherbert@crl.com

From: ern73@my-dejanews.com
Newsgroups: sci.chem
Subject: FREE FREE! new web page - if you like enzymes, then this will turn you on
Date: Fri, 02 Apr 1999 18:23:54 GMT
Organization: Deja News - The Leader in Internet Discussion
Lines: 12
Message-ID: <7e31vl$q08$1@nnrp1.dejanews.com>
NNTP-Posting-Host: 165.91.177.161

I am a grad student at Texas A&M University who works with some pretty AWESOME Ni-FeS containing enzymes. I just got a little web page up and running and if you are interested the URL is http://lindahl3.chem.tamu.edu/elm.htm.

I work with the metalloenzyme carbon monoxide dehydrogenase (CODH) among others. Feel free to check out my research (http://lindahl3.chem.tamu.edu/elm%20research.htm) and interests (http://lindahl3.chem.tamu.edu/elm%20interests.htm) and contact me if you have any questions.

Regards, Ernie

-----------== Posted via Deja News, The Discussion Network ==----------
http://www.dejanews.com/ Search, Read, Discuss, or Start Your Own

From earlcp@idirect.com Fri Apr 2 13:48:17 1999 -0500
Status: O
Date: Fri, 2 Apr 1999 13:48:17 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: VRGNJ <vrgnj@aol.com>
Subject: Re: H2O2 Experiments
In-Reply-To: <19981215085323.20810.00000595@ng149.aol.com>
Message-ID: <Pine.BSI.4.00.9904021345550.4839-100000@hometown.idirect.com>
References: <368d00bd.0@oasis.idirect.com>
<Pine.GSO.4.03.9901021018250.19311-100000@sun5.lrz-muenchen.de>

Hello,

How is your magazine doing? I have just found a bulk supplier of H2O2 at about $1 CDN per liter of 35% H2O2, and the same supplier was able to sell me 2.5 Kgs of KMnO4 for $65 CDN. I expect to be doing a lot in Feb. Hope to hear from you soon.

Earl Colby Pottinger

From earlcp@idirect.com Fri Apr 2 13:57:23 1999 -0500
ewsgroups: sci.crypt
Date: Fri, 2 Apr 1999 13:57:17 -0500
From: Earl Pottinger <earlcp@idirect.com>
To: enterrottacher@lrz.tu-muenchen.de
Subject: Re: OTP/FTP/MTP Question
Message-ID: <Pine.BSI.4.00.9904021345550.4839-100000@hometown.idirect.com>
References: <368d00bd.0@oasis.idirect.com>
<Pine.GSO.4.03.9901021018250.19311-100000@sun5.lrz-muenchen.de>

Hello,

How is your magazine doing? I have just found a bulk supplier of H2O2 at about $1 CDN per liter of 35% H2O2, and the same supplier was able to sell me 2.5 Kgs of KMnO4 for $65 CDN. I expect to be doing a lot in Feb. Hope to hear from you soon.

Earl Colby Pottinger
I was just processing/cleaning up old messages and re-found your very useful reply to me. So just in case I forgot to say it earlier, thank you for the help and the informative reply on OTP and LFSRs. I still need to do a lot of reading on DejaNews on the subjects before posting.

Earl Colby Pottinger

From earlcp@idirect.com Fri Apr  2 14:07:40 1999 -0500
Date: Fri, 2 Apr 1999 14:07:38 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: Ryan Mahaffey <cowboy__@hotmail.com>
Subject: Re: h2o2 rockets
In-Reply-To: <199903230343109.17818.qmail@hotmail.com>
Message-ID: <Pine.BSI.4.00.9904021404320.4839-100000@hometown.idirect.com>

Do you have a phone number I can call you at? I don't mind talking to your parents first if this is needed. Basically, you need to start small and work yourself up to bigger designs. I believe the plaster nozzle in copper tubing is a simple design that anyone can build.

Earl Colby Pottinger

On Mon, 22 Mar 1999, Ryan Mahaffey wrote:

> dear earl
> > my name is patrick mahaffey, and i have been following your
> > progress in what started as a school science project. as i learned more
> > about alternative fuels, i saw the potential of h2o2. in fact, i am soon
> > going to experiment with my own designs. since you have done work
> > yourself, i would like to start a correspondence and discuss ideas. any
> > response would be appreciated. thank you for your time.
> > sincerely,
> > patrick mahaffey
> > Get Your Private, Free Email at http://www.hotmail.com
> >

From earlcp@idirect.com Fri Apr  2 14:09:58 1999 -0500
Date: Fri, 2 Apr 1999 14:09:57 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: jmlozano@spin.com.mx
Subject: Re: Hydrogen peroxide and steam rockets
In-Reply-To: <36FD77D6.7C25@mor1.telmex.net.mx>
Message-ID: <Pine.BSI.4.00.9904021408410.4839-100000@hometown.idirect.com>

The Toys you have! I am envy you. Nice looking Family too!

Earl Colby Pottinger

From earlcp@idirect.com Fri Apr  2 14:26:21 1999 -0500
Date: Fri, 2 Apr 1999 14:26:19 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: VRGNJ@aol.com
Subject: Re: H2O2 Experiments
In-Reply-To: <5f5a85a9.24366c1f@aol.com>
Message-ID: <Pine.BSI.4.00.9904021412120.4839-100000@hometown.idirect.com>

On Fri, 2 Apr 1999 VRGNJ@aol.com wrote:

> In a message dated 4/2/99 1:48:20 PM EST, earlcp@idirect.com writes:
> > Hello,
> > > How is your magazine doing?
> > >> Taking a back burner to some pressing more mundane issues.
> > Yes, same for me. I expected to have a flying model by now.
> > I have just found a bulk supplier of H2O2 at about $1 CDN per liter of 35% H2O2,
Doing the exchange rate calculations in my head, if I am anywhere close to correct, that is very very cheap.

You are right, this is the cheapest anyone have quoted to me, note the limit is 4 liters per sale for safety reasons.

and the same supplier was able to sell me 2.5 Kgs of KMnO4 for $65 CDN.

That sounds high, but I haven't asked anyone about current commercial pricing.

True, but I never found another local source, and while expensive I know that I have enough for my experiments. Plus, it was being used for older water treatments systems, when sales are low, expect prices to be high!

I expect to be doing a lot in Feb. Hope to hear from you soon.

Keep in touch, I'm very interested, but every one of my next
14 weekends is booked solid with something. Free time is scarce.

OUCH! I expect to be spending lots of time at the cabin this spring/summer, but on the other hand I am looking at setting up a solar heated distiller for bulk H2O2 that I can leave running for a week or two at a time.

Earl Colby Pottinger
Jonathan A Goff <jongoff@et.byu.edu> wrote:

> Aeronautical Engineering, when I came across references to an expansion deflection nozzle. Supposedly, these are
> similar to bell nozzles, but are altitude compensating. I've searched a bit for more information, but can't seem to find any.

Hmm. All this time, and you haven't bought a copy of Sutton?

_Rocket Propulsion Elements, 6th ed._, Sutton, George P, ISBN 0-471-52938-9, pp 70 [around $80, but almost a requirement to play the space access techie game credibly... 8-) ]

[Also covered a bit in Huzel and Hwang current edition, pp 77 (ISBN 1-56347-013-6), more than $80...]

The expansion-deflection engine looks from the outside like a traditional bell nozzle; you have a (usually cylindrical) chamber and bell nozzle below it. Instead of the external wall of the chamber constricting and then opening up into the nozzle, there's a plug down the center which expands up right as the chamber transitions into the nozzle, and beyond that.

The central plug deflects the flow from the chamber outwards, to follow the external wall of the bell nozzle. The altitude compensation effect works like this: at low altitude, the center of the bell nozzle fills with atmospheric gas and spillover decellerated exhaust at atmospheric pressure. You end up with an annular exhaust flow expanded to atmospheric pressure, following the nozzle wall out.

In vaccum, there's nothing in the center, and while the gas is deflected and follows the bell nozzle walls, it also supersonically expands inwards into the cavity within the nozzle. The nozzle contour and length are designed to allow the expansion into the center cavity to complete within the length of the nozzle, to optimize the thrust transfer and efficiency.

A quick, rough ASCII diagram:

```
+--+--+
|   |   |
```
E-D works and is tested; the disadvantages are primarily that there's more surface area exposed to more heat flux than in a "conventional" bell nozzle, leading to larger cooling loads etc.

-george william herbert
Retro Aerospace
agherbert@crl.com

The Hydrogen Peroxide EMail Pages
February 1999

From: Tom <t2jr@bellsouth.net>
Newsgroups: sci.space.tech
Subject: Re: Hybrid Rocket
Date: Fri, 19 Feb 1999 23:50:08 GMT
Approved: sci-space-tech@isu.isunet.edu
Message-ID: <36CDF847.72FE8F52@bellsouth.net>
References: <7a9khk$d0u$1@news-1.news.gte.net> <36ca14aa.882871477@news.visi.net> <7adnna$ccd$1@news-2.news.gte.net> <7akg2g$fvt@crl3.crl.com>

George Herbert wrote:

> Ok, look. I know *some* basic algebra, I am in the top math class at
> school, and have an I.Q. of 166. I am in the G.T. (Gifted and Talented)
> program also. And yes, I do know the meaning of hypergolic. Ignition on
> contact. I just don't want to have any complicated formulas. Is that too
> much to ask???

You're going to have to do a lot of math.
Rocket engine design is very math intensive.
Most of the formulas are fairly straightforward,
so it sounds like it's not beyond your ability,
but you have to be willing to put in the effort

to learn how to make it work.
This sort of project absolutely requires parental supervision, will require use of power tools, and there's also a lot of regulations that minors simply can't satisfy. In the US, you must be NFPA 1122-compliant. This means either getting Certified for High Power Rocketry by either the Natl Assn of Rocketry or the Tripoli Rocketry Assn. You also need FAA clearance to fly it. The BATF (Bureau of Alcohol Tobacco & Firearms) is insisting on requiring a LEUP (Low Explosive User Permit) just to store the propellants, DOT Hazmat permits may be needed to transport it, and so on. Similar regulations exist in Canada and Britain. Not complying may mean major jail time for you and/or your parents.

If you use a 200 PSI (pounds per square inch) chamber pressure and 20 pound thrust, then you have:

\[ 20 = 1.25 \times 200 \times At \]
\[ At = 0.08 \text{ square inches} \]

For a circular nozzle, the radius is:

\[ A = \pi \times r^2 \]
\[ 0.08 = 3.14 \times r^2 \]
\[ r^2 = 0.0254 \]
\[ r = 0.1596 \text{ inch} \]
Diameter is twice that, or about 0.32 inch.

For 200 psi, keep the Exit diameter to no more that 2.25 times this. In other words don't put a really huge expansion cone after the throat like the shuttle uses. The shuttle runs at 3000 psi but it overexpands to 2 psi allowing a lower sea-level thrust to optimize for orbital climb-out.

Working back up the motor, we need to determine the amount of fuel burned etc. The "fuel efficiency" of a rocket motor is measured by a number called Specific Impulse, often abbreviated Isp.

Isp for a small home-made hybrid motor might be 150, as a guess, though the fuel and oxidizer choices will determine your particular value. You need to research that, pick a particular fuel and oxidizer, and determine what Isp you can get (which will be less than a big rocket would get). The propellant used is:

\[ Fc = T / Isp \]
\[ Fc = 20 / 150 \]
\[ Fc = 0.133 \text{ lbs/second} \]

If you want the motor to burn for 10 seconds, that's 1.33 pounds of total fuel and oxidizer.
For a hybrid motor you want a lot more fuel grain than chemical perfection predicts. For N2O and PVC, the fuel grain should be the same diameter and length as the mass of N2O with the center hole in the PVC. Most of this will be unburnt. The reason for this is that most all hybrids burn 80 percent from the top of the grain and you're going to have bare naked casing in the top half of the motor long before the fuel is consumed. The burn front even in a cylindrical hole eventually proceeds from coke-bottle to Gourd shape with the narrow end at the nozzle entrance.

For every pound of N2O, only 1/9th of fuel will burn.

There's a new federal law limiting total engine burn times to no more than 15 seconds without a whole bunch of extra permits.

Now it gets tricky. You need to look at the detailed performance of your chosen fuel and oxidizer and find what's called the regression rate. That's the speed that they burn together at. For example, PVC plastic with gaseous oxygen oxidizer at 200 PSI might burn at 0.05 inch per second, that is, a 1 inch thick layer of fuel would burn in 20 seconds. (This is a guess; I don't know the actual number for PVC/oxygen.

Regression rate doesn't apply to Hybrids - just to combined grains. You can vary thrust just by dumping more N2O or O2 into the chamber. The previous web site shows this by having burn times varying from 1 to 7 seconds with larger N2O orifices.

Also, if you use Aluminum chamber, it's a really bad idea to have casing exposed by not extending the grain the whole length. Aluminum melts really fast in this case. Most of the fuel grain will be unburnt serving as casing liner insulation.

From: gherbert@crl3.crl.com (George Herbert)
Newsgroups: sci.space.tech
Subject: Re: Hybrid Rocket
Date: 19 Feb 1999 12:03:28 -0800
Organization: Retro Aerospace
Approved: sci-space-tech@isu.isunet.edu
Message-ID: <7akg2gfvt@crl3.crl.com>
References: <7a9khk$d0u$1@news-1.news.gte.net> <36ca14aa.882871477@news.visi.net> <7adnna$ccd$1@news-2.news.gte.net>

Jack Sidney <fuck.off.sp@mme.rs> wrote:
>Ok, look. I know *some* basic algebra, I am in the top math class at
>school, and have an I.Q. of 166. I am in the G.T. (Gifted and Talented)
>program also. And yes, I do know the meaning of hypergolic. Ignition on
>contact. I just don't want to have any complicated formulas. Is that too
>much to ask???

You're going to have to do a lot of math. Rocket engine design is very math intensive. Most of the formulas are fairly straightforward, so it sounds like it's not beyond your ability, but you have to be willing to put in the effort to learn how to make it work.

This sort of project absolutely requires parental supervision, will require use of power tools, will require pressurized gases and possibly liquids, the potential for large fires, risk of injury etc etc. If your parents are not familiar with those sort of technical issues, find another adult who is and your parents trust to supervise the project. Don't proceed alone: being smart is not enough to make up for things you just haven't had time to learn yet. Things that you don't realize you don't know can still kill you. Full appreciation of all the risks takes years of study and work even for really smart people.

The first thing to start with is an expected thrust level... the design thrust drives the rest of the design details. 20 pounds of thrust is a nice round number, enough to see it work but not so much that it's big and dangerous. The first thing you derive from the thrust is the "throat area". Thrust is roughly equal to 1.25 times the pressure inside the rocket motor chamber times the area of the narrowest point in the rocket nozzle, called the nozzle throat.

\[ T = 1.25 \times C_p \times A_t \]

If you use a 200 PSI (pounds per square inch) chamber pressure and 20 pound thrust, then you have:

\[ 20 = 1.25 \times 200 \times A_t \]
\[ A_t = 0.08 \text{ square inches} \]

For a circular nozzle, the radius is:

\[ A = \pi \times r^2 \]
\[ 0.08 = 3.14 \times r^2 \]
\[ r^2 = 0.0254 \]
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Diameter is twice that, or about 0.32 inch.

Working back up the motor, we need to determine the amount of fuel burned etc. The "fuel efficiency" of a rocket motor is measured by a number called Specific Impulse, often abbreviated Isp. Isp for a small home-made hybrid motor might be 150, as a guess, though the fuel and oxidizer choices will determine your particular value. You need to research that, pick a particular fuel and oxidizer, and determine what Isp you can get (which will be less than a big rocket would get). The propellant used is:

\[ F_c = \frac{T}{\text{Isp}} \]
\[ F_c = \frac{20}{150} \]
\[ F_c = 0.133 \text{ lbs/second} \]

If you want the motor to burn for 10 seconds, that's 1.33 pounds of total fuel and oxidizer.

Now it gets tricky. You need to look at the detailed performance of your chosen fuel and oxidizer and find what's called the regression rate. That's the speed that they burn together at. For example, PVC plastic with gaseous oxygen oxidizer at 200 PSI might burn at 0.05 inch per second, that is, a 1 inch thick layer of fuel would burn in 20 seconds. [This is a guess; I don't
know the actual number for PVC/oxygen. Do your research and find the number. The actual number depends on pressure of combustion as well]. You also need to find the mass ratio of the fuel and oxidizer: you need to know what the right amount of oxidizer is for the amount of fuel that is burning. That 1.33 pounds of total propellant might be 0.33 pounds of PVC or Asphalt fuel and 1.0 pound of oxidizer, or perhaps it’s 0.66 ounds of each. You have to find the exact ratio that is best for the propellants you want to use. You will also need the denisity of the fuel and the density of the oxidizer.

Once you know the mass ratio (amount of fuel, amount of oxidizer) and regression rate, you then have to design the thrust chamber. If in our example (sample numbers DO NOT USE) we have 0.05 inch regression in PVC and are burning 0.66 lbs of it total over 10 seconds, that means that it should be 0.5 inches thick. A first guess would be to make the rocket chamber 2 inches in diameter with a 1 inch hole down the middle of the fuel to start with, and 0.5 inch of PVC up against the walls. The length of the chamber should be perhaps an inch longer than the fuel at the top and an inch or so at the bottom before the nozzle starts, first coming in (narrowing) to the 0.32 inch throat, then getting wider again. The length of the chamber would depend on how long a cylinder of pvc is that is 2 inches in diameter, has a 1 inch hole down the middle, and weighs 0.66 lb (example).

Before we go any further, you will need to get your parents permission, do some research, and demonstrate that you can work with the formulas at this level. You might want to do web searches on hybrid rockets, look at the various fuel options (PVC, rubber, asphalt, etc) and oxidizer options (oxygen gas, nitrous oxide gas, etc) and find out the burning characteristics of each (regression rates, mass ratios of fuel to oxidizer, etc.). Once you can do that, then you need to start detailed design of the chamber, and get into the injector design to get the oxidizer into the chamber. I suggest you get the research and initial work underway, get your parents ok, and come back once you have some of the early answers for the details.

–george william herbert
Retro Aerospace
gerberth@retro.com

From: "Bridge Concepts" <bridge@casema.net>
Newsgroups: sci.chem
Subject: Re: chemical information websites
Date: Tue, 2 Feb 1999 20:38:57 +0100
Organization: Casema Internet
Message-ID: <797kdl$ifa$1@news.casema.net>
References: <36B6343C.1654E2C7@che-chris-garvey.eng.monash.edu.au>

www.prode.com gives a lot of links. Also www.che.com

Jan

Christopher J. Garvey wrote in message <36B6343C.1654E2C7@che-chris-garvey.eng.monash.edu.au>...

After a couple of web searches I haven't found anything really useful. I want to find free sites with safety information.
Christopher Cox wrote:

> To name just a few resources:

> http://www.netins.net/showcase/iowapyrosup/
> http://www.iae.nl/users/nero/eindhoven.html
> http://www.erps.org/
> http://www.rrs.org
> http://personal.lig.bellsouth.net/lig/j/e/jelanier/
> http://www.rattworks.night.net/

Here are a couple more:

http://www.energyrs.com/aero/aerocon.htm - liquid, hybrid and bi-propellant mostly
http://home.if.ru.cn/fox/firefox1/ - Firefox for supplies
http://www.propulsionpolymers.com/ - hybrids and such
http://members.aol.com/rickakk/index.html - Richard Nakka's place
http://ourworld.compuserve.com/homepages/jwickman/Cpcat.htm - CP Technologies
http://members.aol.com/sspasepyro/ - an interesting page by an advanced teen
http://www.jhu.edu/~cpia/prophmpg.html - everything you want to know about propulsion*
http://ourworld.compuserve.com/homepages/rene/ - an interesting hybrid
If you want more, let me know. Don't blow your ass up.

Bob

Date: Mon, 25 Jan 1999 13:41:09 -0700
From: mwo@freenet.edmonton.ab.ca
To: Earl Pottinger <earlcp@idirect.com>
Newsgroups: alt.engr.explosives
Subject: Re: Stability of hydrogen peroxide

: diluted before used. I just got some today and plan to test it's
: affects on skin tomorrow. Notice, it is powerful enough for steam

Save you the trouble. I have had it splashed on me, on fingers and more sensitive fleshy parts
of the arm...

On fingers, 10 seconds your skin starts to turn white (exactly like you brushed up against
something red hot) 15 seconds you feel like pins are sticking in your flesh. 30 seconds your
white flesh is now brown and you are distracted by considerably annoying pain. That's as far as
I wanted to go.

Flesh parts, take 10 seconds off the reaction time.

--

Matthew Ornawka | Environment Friendly PCB Manufacturing|
Multi-Layer
Silver or Gold
mwo@freenet.edmonton.ab.ca | Finished Coatings, No Tin/Lead Plating|

From earlcp@idirect.com Tue Jan 19 22:46:31 1999 -0500
Date: Tue, 19 Jan 1999 22:46:20 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: Manfred <mob@xix.com>
Subject: Re: H2O2 concentration
Message-ID: <Pine.BSI.4.00.9901192242410.5911-100000@hometown.idirect.com>

Update, I have two weeks vacation at the end of month, so I plan to spend some time at U of T
and see what I find there. I am finalizing my distiller's design, and I am turn interest the design
of a mono-fuel engine. I hope to test firing (explosion?) this summer.

Earl Colby Pottinger

On 11 Jan 1999, Manfred wrote:
Earl Pottinger <earlcp@idirect.com> writes:

On 10 Jan 1999, Manfred wrote:

I located a dated but comprehensive reference work on H2O2:

Schumb, Satterfield, Wentworth,
"Hydrogen Peroxide", 1955,
Reinhold Publishing Corporation.

I believe I already have the name of the same book published by UMI,
however they want so much for it I am glad to have another source to check
prices from, I hope they are cheaper.

I currently have the book -- borrowed it from my university's library.
Most uni's with a chemical/process engineering department would have that
book. It describes in some detail a German 2-stage vacuum
distillation process. With regards to contaminants:

"The concentration of impurities and the stabilizers gradually
increased in the first retort with accompanying increase in
decomposition rate and amount of foaming, so that distillation was
discontinued after about 120h of operation and the first retort
emptied. These periodically obtained, impure residues could be
steam stripped in a separate apparatus to recover the H2O2."

I can snail-mail photocopies of the relevant pages if you are
interested.

Regards
--
Manfred Bartz

From: Dave Lyle <davel@execpc.com>
Newsgroups: rec.models.rockets
Subject: Re: The Laws of Physics
Date: Fri, 15 Jan 1999 22:45:47 -0600
Message-ID: <77p594$m0i@newsops.execpc.com>
References: <369f33be.4522918@news.demon.co.uk>

Justin Unsworth wrote:

Hi All,
I just wondered if anyone would give me some guidance on the simple physics of rockets.

I am really looking to calculate how high a rocket will go given its weight and the specs of the rocket motor used.

There are lots a programs out there to do that, but the way I read your post it sounds like you want to get a little into the equations. One page you might find interesting is http://www.execpc.com/~culp/rockets/Rckt_eqn.html

Dave

Date: Mon, 11 Jan 1999 05:45:01 GMT
From: Stephen Gloor <nospam_sgloor@p086.aone.net.au>
To: Earl Pottinger <earlcp@idirect.com>
Subject: Re: H2O2 Experiment `99

On 9 Jan 99 18:44:02 GMT, you wrote:

I am also interested in H2O2 as an oxidiser and in a discussion on it this message was posted. I have tried emailing them but may-be you could ring them to see if they are still in business.

---------------------------------------------------------------------------------------------
Thanks for the plug Jim.....

We are indeed manufacturing 90% H2O2. We also have new catslyst beds available with 3 times the throughput of silver screens and a quarter of the weight. They reduce cat bed diameters by 1/3 to 1/2 of silver screen beds. We are currently shipping in 20 Litre and 55 gallon drums and expect D.O.T approval to ship in truckload and railcar quantities soon. We are considering an Air Force request to supply some 98% H2O2 for their testing but do not plan on making it widely available til the end of 1997.

I must disagree with your contention that the isp of H2O2/RP-1 is "unimpressive", impressive is a relative term and ignores the many effects which propellant selection has on overall vehicle performance. Mitch Burnside-Clapp has pointed to many of the operational and performance advantages as well as David Andrews in several articles in JBIS. The Air Force once considered developing a SSTO vehicle which utilized H2O2/hydrocarbon. This was called project "Blackbird". You don't see many credible studies of LOX/hydrocarbon SSTO vehicles, do you? Oh yeah.....Blackbird was to be manned.

Always remember: The solution to low cost space access is an "Organisational issue" NOT a "Technological Issue". It won't be done by goverment organizations like NASA or Quasi-govermental organizations like Lockheed-Martin or Boeing. It will come from small entrepeneurial organizations who are organized specifically for this task.

Lastly: Jim said in his previous post:
> There were basically zero sources for any concentration above
> 85%, although it was conceivable to concentrate your own from low-

DON'T TRY THIS! High Concentration H2O2 is VERY ENERGETIC! Several people have been hospitalized in the past several years because they tried to concentrate H2O2. "Boiling-Up" H2O2 also concentrates the impurities and creates explosive vapors. This is one of the reasons that we began commercial production. Like the man on TV says: Kids, don't try this at home.

H2O2 Inc.
395 Logan Road
Pittsburgh, PA 15102
412-833-4423

Jay S. Troetschel - President

---

Hi,

I noticed you put my previous message on your H2O2 web page. However, you changed "dessicator" to "dissector". As it turns out we are both wrong ;-) It should read "desiccator" (From the latin "desiccare" to dry up). H2SO4 is commonly used for drying purposes in industrial processes. I would appreciate if you could edit the text accordingly (in 2 places).

I located a dated but comprehensive reference work on H2O2:

Schumb, Satterfield, Wentworth,
"Hydrogen Peroxide", 1955,
Reinhold Publishing Corporation.

Distillation Systems & Evaporators:
<http://www.rccostello.com/distillation.html>

--

Manfred Bartz
From: Earl Pottinger <earlcp@idirect.com>
To: Rick Nelson <rolley@cyberspace.org>
Subj: Re: H2O2 Experiment `99

I am sorry that I can not help you. It has been clear to me from the start that the production of H2O2 is not easy. Because of that I have not studied any of the methods of production. The place to ask is SCI.CHEM where there are of people who understand this type of stuff.

My experiments in distilling are because I can't presently find a source of H2O2 above 70% and even if I did I need to remove the stabiliers for use in a mono-fuel rocket.

Post in SCI.CHEM I am sure you will get a useful answer.

Earl Colby Pottinger

Date: Sat, 09 Jan 1999 23:39:00 -0500
From: Rick Nelson <rolley@cyberspace.org>
To: Earl Pottinger <earlcp@idirect.com>
Subject: Re: H2O2 Experiment `99

Earl,

Glad to see you're still with us - was worried and wondering since I haven't seen you post in a while. I am starting work on a different method - using electrolysis of distilled water, venting off the hydrogen and recirculating the oxygen thru a hi-voltage discharge to create ozone which is then bubbled up thru the water on the oxygen side and continually recirculated. All tubing and tanks will be polyethylene and the electrodes will be coated with thick 24 karat gold. I've been told that to start the electrolysis might be difficult since the ionization level of pure water is quite low. I plan to overcome this by making the electrolyzing electrodes movable and starting with them very close together and using a fairly high voltage.

Let me know what you think - I'm only as far as putting the electrodes (for both electrolysis and spark gap) together - so any ideas about design are very welcome.

Thanks,

Rick

Earl Pottinger wrote:

> [ Article crossposted from sci.chem ]
> [ Author was Earl Pottinger ]
> [ Posted on 9 Jan 99 18:42:19 GMT ]
> Hello,
> I am continuing my experiments in the handling, storage, and
There are a large number of organic peroxides that are explosive. Unfortunately, the vast majority of them are so highly unstable that if prepared intentionally you will have an accident. Chemists have to keep a wary eye on solvent bottles that get old because they may have formed peroxides from the air. It is also bad practice to distill a solvent to dryness because of the possibility of a small quantity of peroxide being concentrated and crystallized in a flask while heat is still being applied. There are always a few exceptions, like acetone peroxide, but it's not so stable either. There is a book about explosive peroxides that I have seen, probably named "explosive peroxides" or "the chemistry of peroxides" I can not recall.

--
Megalomania's Explosives and Stuff
http://surf.to/megalomania
A comprehensive treatise of chemical synthesis, laboratory techniques, equipment, and safety concerning explosives, drugs, poisons, and chemical weapons.

Contact me at bombchemSPAMGUARD@hotmail.com (remove the spamguard)
kromsson@yahoo.com wrote in message <772gue$r50$1@nnrp1.dejanews.com>...
> In article <3693F1A8.E86DF951@wam.umd.edu>,
> Bill Walker <bhw@wam.umd.edu> wrote:
>> Hi all,
>> I remember we had a bit of a discussion a while back about Acetone Peroxide and I wondered what other sorts of aldehydes and ketones formed
>> these sorts of compounds.
>
>This is a most interesting subject.
>Amines could possibly form peroxides (HMTD).
>Any info on other substances would be much appreciated.
>
>
Dear Ed McBride:

Did you read my reply to this thread shortly before yours? I couldn’t agree more with you about the fact that so many people seem to want a program or an internet site to do their thinking and their calculations for them.

Milton Beychok
(Visit my website at http://www.air-dispersion.com)

______________________________________________

Ed McBride wrote:

> Phart2 wrote:

> > Could anyone tell me the density of air at 480 F.
> >
> > Thanks

> I surely do not mean to offend, but doesn't anybody know how to do calculations any more without reference books and computers. At 70 F, 14.7 psi, air density = 0.074 lbm/ft^3. Which, IMHO, every non-electrical engineer should know. So, at 480 F, 14.7 psi, air density = 0.074*(70 + 460)/(480+460) = 0.042 lbm/ft^3. And, in case anyone is getting ready to ask, I did it on a calculator, but I could have done it by hand or with a slide rule, I actually still remember how to do arithmetic without a bunch of electrons running around.

> Ed McBride

From: "Bruce P. Dunn" <bpdunn@home.com>
Newsgroups: sci.space.tech
George Herbert wrote:

> I'm looking for the source code for the (Allegedly originally US Air Force) "Isp" dos program suite for calculating rocket propellant and motor performance.

I was given a copy of the DOS version of the program by Mitch Burnside Clapp, who at the time was in the Air Force. He indicated that it was available for unrestricted distribution, which I have been doing so since 1993. Original file dates for the program are in 1992. No source code was provided in the material which I obtained.

Some hints as to the source of the code are in the hlp.doc file which comes with the program. The hlp.doc file contains the following information, which appears to refer not so much to the actual Isp program "isp.exe", but to the utility "inp.exe" which sets up a run file for the Isp program. The input utility appears to have been written by Curtis Selph, who has provide some contact information which now is no doubt out of date. The phone number may still however get you to someone who can help - I haven't tried it. Happy detective work, and keep us informed on any progress!

The following information is from hlp.doc:

___begin quote___

INPUT UTILITY FOR SPECIFIC IMPULSE CODE
by Curtis Selph

This program helps the user generate an input run file for the Air Force Chemical Equilibrium Specific Impulse (Isp) Code. When you have finished, you must exit this utility and invoke Isp. It will query you for the name of the run file created here.

A second use of this program is to enable editing of the Master Propellant Data Library. The two functions are distinct. Changes to the Master Library cannot be made while in the run file preparation mode; and a run file cannot be prepared while in the Master Library edit mode. However, you may search the Master Library while creating a run file, and transfer propellant data into the run library.

This utility is still a "work in progress". No warranties are expressed or implied. There is no manual on its operation. The user is assumed to be curious enough to read the screen, and bold enough to press the keys. It is unlikely that anything bad will happen that is beyond the remedy of a soft re-boot. Harsh criticism is in bad taste, but gentle inquiry or warm praise may be directed to the author, last known phone number: (805) 275-5320

___end quote___
On 1 Jan 1999 19:02:33 -0800, gherbert@crl3.crl.com (George Herbert) wrote:

>I'm looking for the source code for the (Allegedly origionally US Air Force) "Isp" dos program suite for calculating rocket
>propellant and motor performance. It's the one that has inp.exe to set up data files, isp.exe for the actual run, allprop.dat
>and several other datafiles. If anyone knows where it came from and where the source is, I would appreciate it. Alternatively,
>another program that does the same thing and is available for Solaris systems or Unix/C source code...
>
>[I will not get an NT system at home for one DOS application.
>[I will not get an NT system at home for one DOS application.
>[I will not get an NT system at home for one DOS application....]
>
>Thanks,
>george william herbert
>Retro Aerospace
>gherbert@crl.com  gherbert@retro.com
1. If you have not already found it, you would be interested in some of the info available from the Space Tech Digest archives: <http://www.cs.cmu.edu/afs/cs.cmu.edu/user/mnr/st/>

   In particular regarding the P2 launcher proposal:
   std110.txt
   std111.txt
   std112.txt
   std115.txt
   std131.txt
   std132.txt
   std134.txt
   std137.txt
   std138.txt
   std139.txt

   AFIK, "Space Tech" was a mailing list which eventually matured into the "sci.space.tech" newsgroup.

2. Also interesting a proposal to develop a space plane, essentially using 1960's technology using H2O2 and commercial Jet Fuel.
   <http://www.fas.org/spp/military/docops/usaf/2020/app-h.htm>

3. Apparently, a small amount of near 100% H2O2 can be made in a dessicator. A simple dessicator could be a large, airtight tupperware container in which you place two open glass containers, one with a lower concentration of H2O2, the other with the highest concentration of H2SO4 available (96% or so). Over a number of days, the water in the diluted H2O2 will migrate to the H2SO4. Leave enough capacity in the H2SO4-container <grin>.

   Be careful ;-) 

I am personally interested in amateur rocketry, but have not done much about it. Hope you get much further :-)

Cheers
--
Manfred Bartz

------------------------------------------------------------------
Time is the best teacher; unfortunately it kills all its students.

EMAIL to Earl Colby Pottinger
This is some of the email I have received in late 1998.

Date: Sat, 26 Dec 1998 12:21:57 -0600
From: Mike Hayes <mhaze@txdirect.net>
To: earlcp@idirect.com
Subject: "H2O2 Inc" ??? No, Says the State of Pennsylvania

Checking with the State of PA., there has been no such company as H2O2 Inc. registered to do business in that state.

You might wish to validate assertions before accepting them at face value.

Your description of an effort to build a small distillation system is not workable. I believe it was wise to post the method and procedures, in the fashion you did, though, and to receive feedback.


Mike Hayes

Date: Tue, 15 Dec 1998 08:03:55 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: Rick Nelson <rolley@cyberspace.org>
Cc: earlcp@conpute.com
Subject: Re: H2O2 Experiments

Hello,

All your points are noted. You are right that I used a regular freezer. I did however wrap the H2O2 container in foil. Also notice food freezers are not that cold, I was only able to go to about 20-25% from 10% solution. The fridge would have never frozen 30%+ solutions.

Because of the cold temperatures there is very little lost to vapor when you freeze the liquid.

As for distilling, remember that as always I start with a small amount of H2O2. In this case I will be using the H2O2 which I have already removed the more concentrated H2O2 from. I am just testing the idea, not building a large plant in my backyard. If it works I will end up with 5-10 cc of H2O2 max! It is a test to see how well it will work first.

PS. I am also wearing safety glasses.

Earl Colby Pottinger
your freezing attempt at purifying H2O2 is interesting - this provides me with some motivation for concentrating pure H2O2 solutions. I am not as hopeful as you seem to be about the "stabilized" H2O2 being "distilled" into more concentrated batches without risk.

the other problem I note is that you aren't using a carefully controlled freezer - - - if you are using your normal freezer !! you should be aware of the explosive nature of the H2O2 / organics (from the fridge freezer foods, etc) - and at least try to keep your H2O2 slush in an inert atmosphere in a PE bag or some such. Also, the "freezing/distilling" slush should be outside of contamination also.

much like ether, concentrated H2O2 will react with organics near the "spout of the bottle" to make highly unstable explosives.

Take great care,

Rick

Earl Pottinger wrote:

> Earl's Rocket Design and Building Reports
> 
> November 11/1998:
> ===========
> I went to a local hair beauty supply store today expecting to buy some 35% H2O2 to start experimenting. The kind lady explained that they did not have it in 35%. Would I like 30% or 40%? I explained that the stronger the better at which point she told me she had 50% at $5.95CND per liter. I bought a liter fast :) She also mentioned that up to last year she was getting it at 100% also!!!!
> Check out your local sources!!!!
> 
> I have tried two experiments since getting home.
> 
> 1) I put some H2O2 on the tip of one of my fingers. In a very few seconds I could see my finger print in white! My fingers usually tend to red :) After about 5 minute I started to get a tingling in the affected area, after about ten a sharp burning feeling. I washed my hands very carefully and the burning has slowing decreased. I can see no damage to my finger, it looks fine now.
> 
> 2) I tried some H2O2 on a 2 liter pop bottle. No affects seen, I figure that a pressurized 2 liter plastic pop bottle would be a fine tank for my first experiments!
> Do anyone have a suggestion on what is the best thing to washing out a used pop bottle before using it to store H2O2? Distilled water???
>
> November 13/1998:
> =================
> Christopher Cox and Bill Westfield warned me to check what measurement was being used as hairdressers use "Volume"
> which how many volumes of the original volume of H2O2 of O2 is produced! Thus one liter of "50 Volume" will produce 50 liters of oxygen! Not 50% H2O2. And guess what? That is what I have. Damn it.
>
> 1 Mole = 22.4 liters. O2 has an atomic weight of 32. H2O2 has an atomic weight of 34, and H2O of 18. 1 liter of H2O2 is 1430 grams.
>
> Thus 1 liter of H2O2 will generate 1430*(16/34)=672.94 grams of oxygen. 672.9/32 = 21 moles * 22.4 = 470.4 liters of oxygen per liter of H2O2. 50/470.4=10.6 percent H2O2 by weight.
>
> >From Bill Westfield:
> > Note that at this ratio (50 volume ~= 10%), the oxygen density of peroxide passes compressed gas (practical limit ~3000 psi) at about 40%. 1 liter of LOX is 1429g, about 45 moles or 1000 liters of Gas at stp (nice round number!) Assuming I didn't mess up my math.
>
> November 14/1998:
> =================
> The best suggestion I have recieved so far. Wash out the bottle *three* times with distilled water, then rinse with a small amount of H2O2. Check to see if there is any reactions, if there are any then start the rinse cycle all over again.
>
> November 27/1998:
> =================
> I just ordered one stainless steel ball valve, with a quarter inch inside diameter. Costs $140 Canadian, boy is this stuff expensive. I may need to change my designs to use less valves, as I was expecting them to only cost $20-30 dollars each.
>
> I was able to contact Mr. Gibbs about his supply of H2O2. He is no longer in the business and used to supply only 35% Peroxide. He however, had some 30% in stock that he is more than willing to sell me. And at the same time he gave me a name of a company in Toronto to contact for higher percentages.
December 2/1998:

Contacted Canada Color and Chemicals (416-449-7750). They have 50% Hydrogen Peroxide in 65Kg plastic bottles, $1.85 per Kg and $500 min order. I will keep on looking as I don't need so much at first. They have 5 bottles in stock.

December 4/1998:

Picked up my SS valve, cruised Canadian Tire for couplers and piping. Found only couplers in Brass.

December 5/1998:

Gone to Toronto looking for SS items found in the HouseWare sections. Found some good thick SS bottles that are perfect to build a small test engine with. Plan to start drilling soon.

December 7/1998:

Cleaned out my old test tubes. Placed a small brass compression ring in some 10% Hydrogen Peroxide. Left overnight to see results.

December 8/1998:

Went to Canadian Tire (larger store) again. Found a large range of products in stainless steel!!! Picked up a SS doggy dish, a glass hydrometer, and some tubing. Poured about half a liter of Peroxide into the dish after wiping out the dish. Placed bowl in freezer, examined compression ring. Very little oxidization seen, this suggest that I can use brass parts for short term testing before ordering expensive SS parts. Hydrometer only goes down to 1.10, can not measure 10% H2O2 solution. Hope to test with concentrated H2O2 tomorrow.

December 9/1998:

Openned freezer last night to find the H2O2 solution was still liquid! As I picked up the container to move to the bottom (coldest) part of the freezer, ice started to grow in the bowl right before my eyes (Super Cooled Liquid?). Left it to finish freezing.

Examined this morning, the bowl is now filled with an ice slush. I plan to get a SS stainer to filter out the ice.

December 10/1998:

Tried the stainer, did not work at all. The hydrometer came in two parts, a glass
tube with a suction bulb and the weighted hydrometer inside. I removed the meter and used the glass/bulb to suck up the liquid H2O2 solution. The test tube I placed it into frosted over with ice! And the hydrometer showed a density of 1.13. I tried some more experiments with it vs the 10% solution out of the bottle. First, the colder it is the slower the reactions, as for the reaction after it warmed up it was more active. The hydrometer that must not be properly have been cleaned. It had showed no reaction in the 10% H2O2 solution. There are now bubbles with the solution from the freezer.

December 11-13/1998:

I froze all my 10% solution, all the liquid collected has been placed in the old H2O2 bottle. In handling the solution I took care not to get any on my hands, ten minutes after I finished transferring the liquid my hands started to tingle and turned white in places. It is clear that the stronger the solution the more care in it's handling is needed. I tried the H2O2 on diffirent materials to see if I could find a good replacement for silver. So far no luck! Next is to build a simple vacuum distilling column to see if I can produce 90+ H2O2 as I so far have not found more than 50% H2O2 available in small lots.

Earl Colby Pottinger

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Date: Sat, 12 Dec 1998 15:17:39 -0700
From: Jonathan A Goff <jongoff@et.byu.edu>
To: Earl Pottinger <earlcp@idirect.com>
Subject: Re: H2O2, Hybrids & WWWs

Earl Pottinger wrote:

Thanks,

I used to study Alum. based fuels but the old powder just did not burn that well. This sounds very very interesting. I forget which book I was reading it in but the author talked about adding various metals to regular rocket fuels. What as interesting was they found that they did not increase ISP or thrust, infact there was very little change, but the ISP-Density would climb very fast and with it the mass fraction of the rocket.

Alex, unlike normal aluminum has an extremely large surface area per unit mass. Because of that, it will actually burn unlike micron sized powder. Because of that, it will increase Isp.
> Thus looking at what I am doing now.
> 1) Use only H2O2 I get a ISP of 214
> 2) Use H2O2 with 1/7 CxHy fuel I get a ISP of 357
> 3) Use H2O2 with 1/7 CxHx fuel + 25% Alum power ISP=426

Wow.

> Notice these figures are off the top of my head, but they do point out that adding metals can boost performance. The 25% Alum to fuel is about
> the max you can go without redesigning your engine from scratch to burn metals. IE changes from a very thin mud to a thick slurry.

Well, I was thinking of designing a new rocket engine to handle this anyhow. And since it is non-Newtonian fluid, a tesla pump actually is better for it than a normal pump.

--
Jonathan Goff

"If you are on the wrong road, progress means doing an about-turn and walking back to the right road; and in that case the man who turns back the soonest is the most progressive man."
-- C.S. Lewis
pasty substance made of PAN, water, and alex), and the bipropellant form (where the alex is dissolved into RP-1 or JP-4). Anyhow, the flame temperature is significantly higher than for just normal fuel. Also, the Isp, and the density Isp improve. In other words, it would go good with LOX, but it would be a great benefit with H2O2.....

I can dig up the link if you want.

--Jonathan Goff

"If you are on the wrong road, progress means doing an about-turn and walking back to the right road; and in that case the man who turns back the soonest is the most progressive man."
--C.S. Lewis

Date: Mon, 30 Nov 1998 20:14:32 -0500 (EST)
From: Henry Troup <hwt@igs.net>
To: Earl Pottinger <earlcp@idirect.com>
Subject: Re: H2O2 50%, Source & Experiments

I looked for the conversion from volume to % but couldn't find it. If you can find a Chemical Engineers Handbook or a CRC Handbook of Chemistry (The "rubber bible") it will likely be in there.

Good luck and keep us posted!

Henry Troup hwt@igs.net I am responsible for these opinions.

Date: Mon, 30 Nov 1998 22:00:26 -0500 (EST)
From: Earl Pottinger <earlcp@idirect.com>
To: Henry Troup <hwt@igs.net>
Subject: Re: H2O2 50%, Source & Experiments

Good point, as soon as I have the data I will add a chart for Volume <-> Volumes <-> Weight conversion chart. However if you follow the links like I think you will find a conversion chart in the company data near the begin of the FAQ.

Earl Colby Pottinger

EMAIL to Earl Colby Pottinger
This is the basic idea of a Hydrogen Peroxide still's design. I used this as my base plan and developed all my designs from this.

The basics of distilling Hydrogen Peroxide is very simple. First water has ten times the vapour pressure $\text{H}_2\text{O}_2$, you are not distilling out the $\text{H}_2\text{O}_2$ from the solution! You are distilling out the water! For example if you have a 50/50 $\text{H}_2\text{O}_2$ solution, about 90% of the vapour will be water and only about 10% will be Peroxide. The result is the solution in the evaporator will be enriched in $\text{H}_2\text{O}_2$ over time. If you are starting with a 10% Peroxide solution, only about 1% of the vapours will be Peroxide so there is very little loss in concentrating low percentage solutions. Check the Programs Page to test the numbers.

This was my first still. It did not work well, infact it suffer thermal runaway when the percentage climbed over 18%.
One major problem with this design is that the paint did not absorb all of the light. Light helps $\text{H}_2\text{O}_2$ to decompose, and probably was one of the causes of the extra gas that raised the internal pressure and thus the boiling point.

In this design I replaced the small pop bottle with a large rum bottle made with purer glass.
The heat was transferred to the bottle using aluminum foil. This caused a problem with hot spots and light leaking through holes in the foil and breaking down some of the H$_2$O$_2$.

This design replaced the foil with a painted tin can containing mineral oil. A large vertical drop was also used to overcome resistance to movement of the condensed liquid in the cooling tubing.
This is the design used to produce 65% H₂O₂ from 35% H₂O₂, it runs well and does not need to be monitored every minute like the previous designs.

This is the solar H₂O₂ distiller. It uses the heat of the sun to distill the water out of a H₂O₂ solution, and uses the water of the lake to condense the water vapour back to liquid. The main problem is that it needs to run for at least a week unattended without the vacuum being renewed. The tanks and piping will be made of metal with a plastic lining to protect from decomposing the H₂O₂.
I have found a site at the cabin to install the still. I plan to work on it in the month of July. June will be spent building my first experimental boat, and finding the right parts to assembly the...
A change of plans. As I now have a generator, batteries and a solar panel to maintain the charge when I am not there. Thus I am now thinking of an active system that will process a lot more H$_2$O$_2$ than the above design. First, you open valve #1 to the outside air, close valve #2 so you will not pressurize the 35% H$_2$O$_2$ tank, and open valve #3 so as to equalize the pressure in the 35% H$_2$O$_2$ tank. Start up the pump, and bring the entire system to a vacuum. Next you close valve #1, open valve #2, and close valve #3. Any remaining gasess will raise the pressure in the 35% tank. A fluid level valve controls the flow to the evaporator plates (this will need to be hand adjusted), as water vapor is drawn off, the remaining enriched solution flows into a H$_2$O$_2$ storage tank. As the vapors will contain H$_2$O$_2$ and H$_2$O which we don't want in them in the compressor, so we run the gases thru a condenser first. There should only be some oxygen remaining which is used to further pressurize the 35% H$_2$O$_2$ tank. Some more control valves will be needed to be added so that this can run only in daylight and will shut itself down at night.
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<td>sorry, I knwo this belongs in miscellaneous(SP?) but my page is about explosives and those son of a bitch fucking dick fuck heads at xoom deleted my page. good thing I saved a copy on my hard drive. those suns of bitches. I'm trying to join again. when I tried to login(not from FTP) at xoom. it brought me to the TOS page. fucking ass holes. sorry for the fucking cussing. 😞</td>
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<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
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<td>-- Ragnar Benson</td>
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<td>dlwdaw</td>
<td>posted Oct 09, 99</td>
<td>well I know I shouldn't have been pissed off about a page that wasn't nearly finished. the only section that is up is the primers. the only thing ready is the AP. but it is the principle of the thing. my suitonym (title[dlwdaw]) is what I have been using since I was on the net. and xoom won't let me replace it. I have to use dennisleeew and that sucks i like dlwdaw. I will be trying to get more pages written. soon. and sorry for the cussing, I was pissed. I love the name dlwdaw, and that really PISSED ME OFF.</td>
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<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
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<tr>
<td></td>
<td></td>
<td>-- Ragnar Benson</td>
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<tr>
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</tr>
<tr>
<td>nbk2000</td>
<td>posted Oct 10, 99</td>
<td>I've had sites on <a href="http://www.freeyellow.com">www.freeyellow.com</a> and <a href="http://www.50megs.com">www.50megs.com</a> for many months with crime and bombs and never been deleted. Maybe you should switch. Both have FTP and freeyellow gives you 12 megs space and 50megs gives you (surprise) 50 megs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
</tbody>
</table>
Predator  
Frequent Poster

I found that my pages, which have been up for over a year, have never been deleted, or moaned at nor have i been warned by angelfire, perhaps it's something to do with the disclaimers that revoke all responsibility from the site owner and the server on which it is based.

-----------

* 
Regards -WildEyedPsycho
* 
WildEyedPsychos Advanced Improvised Weapons Site.

---

dlwdaw  
Frequent Poster

Sorry guys, I'm trying to switch to freeservers, but it wont activate my damn account.  
and I hear free yellow is a scam to get you to make the company BIG $$$$$$$ through your website.  
and angelfire sucks, it cant have any new directories. I need lots of directories.  
and 50 megs sucks, you cant have pictures from your 50megs onto other sites, you cant have links from any other site.  
so I like XOOM.  
no advertising(after I do my magic with javascript).  
I like www.webjump.com  
and www.virtualave.net  
I like them they give you awsome CGI priveliges.  
like this forum, it wouldnt be possible (free) without virtualave.  
I have a forum of my own with these same topics(explosives, weapons, misc.)  
I also have 5 other ones, cobol programming.  
VB6, C C++,computer,etc. with the announcementsection I still need some mods. of my programming sections, anyone here that is good at programming email me dlwdaw@hotmail.com  
for subject write:mod of ( )()()( )()=forum you want to be mod of.  
anyone, poisen you said you needed a copy of VB on my forum, you want to be mod. of that group??  
and I'm trying to send it to you. my mail program wont let me.  
sorry for the off topic post

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

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<table>
<thead>
<tr>
<th>User</th>
<th>Post Date</th>
<th>Message</th>
</tr>
</thead>
</table>
| megalomania  | October 11, 1999 04:04 AM | You want free webspace? try this link: http://www.freeservers.com/  
It is a searchable index of every free space provider in the world, they have over 300 different providers and growing all the time. That site is how a site should be, free and comprehensive. 
Xoom has recently deleted my site as well, I launched a preemptive strike though, I moved to internettrash.com which is sympathetic to sites like ours... I was using my xoom site as a backup, lost all my big files 😞  
-------------  
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |

| dlwdaw       | October 11, 1999 10:39 AM | I keep a copy of my files on the computer, I don't know what I'm going to do if it crashes.  
----------------  
-dlwdaw  
"... always look on the positive side of things, blow things up not down"  
-- Ragnar Benson |

| VeHeMT       | October 11, 1999 12:09 PM | I try to keep a copy on disk of all the html and graphics so if anything does happen I will be able to quickly get back up, but the chances of my HD crashing and xoom deleting my stuff is still quite remote. |

All times are ET (US)
wave
Frequent Poster

does any one know how to make PELLITE
if so please tell me how

Administrative Options: Close Topic | Archive/Move | Delete Topic

Contact Us | The Forum

Powered by: Ultimate Bulletin Board, Version 5.38

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Hey, HMTDers'</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMTD Factory</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

I post up a reply for you HMTDers', at dlwdaw's "HMTD" , it tells you how much patient you'll need to brew clean, good quality HMTD.

---------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

All times are ET (US)
sharky
Frequent Poster

posted October 06, 1999 04:38 PM

I attempted to make some picric acid from aspirin. The final product is bright yellow crystals in the shape of little needles. Are these properties of picric acid?

Also, what type of blasting cap does it need to detonate?

thanks,
sharky

---

dlwdaw
Frequent Poster

posted October 06, 1999 05:08 PM

I have never made it but I would think a normal cap. It is also used as a booster. You can press some of this into a cap body and then some HMTD or AP then it should detonate anfo. I think you should use a boosted cap to ensure detonation.

-------------

-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged
dlwdaw
Frequent Poster

posted October 06, 1999 05:08 PM

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you can press some of this into a cap body and them some HMTD or AP then it should detonate anfo.
I think you should use a boosted cap to ensure detonation.

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

nbk2000
Frequent Poster

posted October 06, 1999 06:32 PM

Congratulations. You made picric acid. Bright yellow needles are indeed picric. If you touched it did your skin turn yellow? You can use it to make plastic explosives by melting it with about 10% of it's weight paraffin wax with a little vaseline added to make it more moldable. Just melt the wax and stir in the picric. Wear rubber gloves while handling it because it is absorbed through the skin and is toxic. If you use it for a detonator, remember to use them ASAP if your using anything but aluminium for the shell. It forms very sensitive explosive salts with most metals. My site in the explosives section has a bookz on making and using picric. It called "kitchen Improvised Detonators".

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

sharky
Frequent Poster

posted October 06, 1999 10:27 PM

well, i tried not to touch it, but i think a little got on my thumb anyway because its yellow.

Also, when i went to eat supper, i must have had some on my hand because every thing i touched with my hand tasted very bitter.... well, next time i'll wash my hands after i make picric.

sharky

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<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>October 07, 1999 09:37 PM</td>
<td>was the picric acid easy to make? or would you say it is a waste of time knowing you can produce something else with higher yields and better success.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!</td>
</tr>
<tr>
<td>nbk2000</td>
<td>October 08, 1999 12:08 AM</td>
<td>The most expensive thing in the process is the aspirin. If you five finger discount that, then the picric is quite cheap to make. And it's not that big a hassle for a real High Explosive. Much easier than trying to make nitro or RDX. Plus you don't need to make nitric acid beforehand either. A big plus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td>Ve He MT</td>
<td>October 08, 1999 10:51 AM</td>
<td>Even aspirin isn't in itself too expensive, for a few bucks you can get a hundred+ pills.</td>
</tr>
<tr>
<td>dlw daw</td>
<td>October 08, 1999 03:11 PM</td>
<td>what is a five finger discount??</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-- Ragnar Benson</td>
</tr>
</tbody>
</table>

IP: Logged
5 finger discount means shoplifting. Steal it. Aspirin is cheap, but when I made picric I got 1/2 ounce with 40 tablets. 2 1/2 ounces of picric per $3 bottle equals $20 per pound. That's not including the cost of the other chemicals. But the aspirin is the most expensive component.

Picric is best used as a booster for detonators, not as a main explosive charge.

---------------------
"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

sharky
Frequent Poster

posted October 10, 1999 08:35 PM

The only problem i had while making it was that when you dump the finished nitrated liquid into ice water to percolate the picric acid, alot of the picric dissolves in the water.

Is there anyway to get the dissolved picric out of the water?

sharky

Ho ju
Frequent Poster

posted October 13, 1999 09:00 PM

do you have to use a blasting cap to detonate picric?

---------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Klean Strip</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlwdaw</td>
<td>posted October 11, 1999 03:40 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
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</tbody>
</table>
| I got bad news, on megalomania site he says someone gave him a hint that 30 or 35% H2O2 was called klean strip at home depot. It might be, but every fucking solvent at home depot is made by klean strip. I looked. acetone, HCL, minerla spirits, denatured alcohol, every solvent is made by klean strip.  
  ---------------  
  - dlwdaw  
  "... always look on the positive side of things, blow things up not down"  
  -- Ragnar Benson |

| Ve He MT      | posted October 11, 1999 05:32 PM |
| Frequent Poster |                    |
| That is not necessarily bad news, it simply clarifies something. That Klean Strip is a company that sells those such chemicals. Then that might mean they also sell hydrogen peroxide. That is a step further in confirming that. |

| Ho ju         | posted October 13, 1999 09:07 PM |
| Frequent Poster |                    |
| I was under the impression that klean strip was the name of a product not the company that makes it...hmm alright. that works.  
  ---------------  
  Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! |

IP: Logged
if anyone is interested........ - The Explosives and Weapons Forum

this the procedure I used to make hmtd. report to me any mistakes (life threatening or not)

HMTD

HMTD is very similar to Acetone Peroxide. It is a much better primary explosive because it is more stable (less sensitive), and more powerful. In fact I like HMTD most out of all primary explosives listed here. It is also more powerful and more stable than mercury fulminate. But I think mercury fulminate has longer shelf life.

I made some very nice hmtd with this exact procedure.

chemicals

hexamine (I used esbit)

12% (40 vol.) hydrogen peroxide

2 packs of 6.9 (or is it 6.2) gram packets of UNSWEETENED LEMONADE koolaid

materials

a few glass jars

stirring rods

filter paper
I used esbit hexamine fuel tabs which are over 50% wax. I mixed 3 ounces of 12% clairoxide (by claireol)peroxide (it cannot contain phosphouric acid (SP?) or it wont work. you can buy this stuff at sally's beauty supply, it is about $4 a pint.)

like I said I mixed 3 ounces of peroxide with 2 1/2 teaspoons of esbit hexamine, this comes out to about 1 teaspoon of pure hexamine, you mix this well.

it need not be in an icebath. mix it untill nothing else dissolves then filter it through a paper towel you should end up with a liquid that looks like plain peroxide.

now add 2 packs of lemonade koolaid***. these packs have to be unsweetened and be between 6.2 and 6.9 grams I cant remember at the moment. mix and swirl this around for about 1 minute or 2. if you cant get it all to dissolve then add more peroxide. for me it is hard to dissolve the lemonade in the peroxide with the hexamine already dissolved. after this is well mixed put it in the fridge.

if it starts to heat up(it shouldnt) then put in a running stream of cold water.

***you really must be thinking damnit koolaid that wont work, it will, this is the most powerful explosive you can make with such common ingredients.

this doesnt always work. most of the time it does. and when you filter it dry the hmtd you got from the filter by leaving it on the filter. when it dries pour(yes pour when this dries it doesnt stay clumped into cakes its like when powdered sugar sticks together) it into a film canister. now take the filter and carefully rub it against itself as you were going to get a rag nice and soapy. this will get the dried particles off that stuck to the filter paper.

when this is wet and you light it, it burns fast and crackles.

when it is dry and you light some it produces a fair sized fireball. if you light more than 2 grams it will detonate. even when unconfined.
If you use a cigarette lighter and light more than 2 grams be prepared to lose at least a few fingers (if you are lucky). The HMTD will detonate, and might bring the lighter with it. So be careful.

If you are using pure hexamine you need only 1 teaspoon. And if you haven’t figured it out the lemonade replaces the citric acid.

You can scale this up if you need but you should use an icebath.

-------------------
-dlwdaW

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

The links don’t work because they are meant for my page so they are in this format
/_XOOM/dennisleew/page.htm#pagejump

-------------------
-dlwdaW

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
dlwdaw
Frequent Poster

posted October 10, 1999 08:11 PM

the links don't work because they are meant for my page so they are in this format
/_XOOM/dennisleew/page.htm#pagejump

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-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

megalomania
Administrator

posted October 11, 1999 03:44 AM

You can use other acids, you do not have to limit yourself to just citric. Spring for that bottle of HCl at the hardware store and leave the Kool Aid for drinking.

------------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

IP: Logged

dlwdaw
Frequent Poster

posted October 11, 1999 10:36 AM

would you use the same proportions for HCL as you would for pure citric acid.

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ho-ju
Frequent Poster

posted October 13, 1999 09:04 PM

does the packet of kool-aid really work (even if it does n't work as well as pure citric or hcl?)

------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged
yes it works and well.
I just can't get it all the time
it has to be unsweetened and lemonade.
I got a very powerful explosive after filtering.
it only works some times.

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
just a quick question on black powder.
then black powder is mixed, 15:2:3, is this done be volume or weight? i
mixed up about 4kg up last night for a little amateur fireworks night we
are having on the week end. I did it all by volume not by rate and its didn't
burn. I have worked out how short i will be so all i need to do is add more
sulfur if the measurement is by weight.
does anyone know??

This site is dan williams it has a great way of preparing almost comercial
black powder about the best you can make at home.
http://www.ctel.net/~dwilliams/index.html
-Poison
I just mixed up the chems for hmtd. (H2O2, citric acid I used a replacement, lemonade koolaid, paul[he posted here before about h2so4] said he used it and it worked), and hexamine)
I used 40 volume (12%) h2o2 that I got from a five finger discount from sally's (he he).
some hexamine (esbit) I bought from annandale surplus (50% wax) and some lemonaid koolaid (five finger discount from safeway, he he)
I filtered the wax off after all the hexamine dissolved in the h2o2.
then I added alot of lemonaid koolaid (a very high conc. of citric acid).
it has been like 3 hours and nothing has precipitated.
I have made this bfore (from 3%) and waited 24 hours and it didn't work.
will this work. thanks and sorry for the post about my page (subject: FUCK).
i was pissed.
thanks for any replies

it worked.
I only got a little bit because I need to wait a few more hours for full yeild.
but I lost the little bit I filtered down the drain because someone stile my filter.
but I still have 2 more batches. wehn i'am sure it is forming i'am going to make a big batch. so I can have alot 😊

------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Date</th>
<th>Content</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Igenx</em></td>
<td>posted October 09, 1999 11:54 PM</td>
<td>Really bright of you to confess that you are producing explosives. If anyone else visiting this site gets busted, you might get taken along for the ride.</td>
<td>Logged</td>
</tr>
<tr>
<td>dlwdaw</td>
<td>posted October 10, 1999 12:01 AM</td>
<td>oops, I never did this and you cant prove that I did. 😊 I have never made anything illegal. I'm a good citizen. ha ha ha. come on even if I did make it(saving my ass) how could anyone prove it. look I live in USA and I just killed the president, this is not a flame but, they cant really prove anything.(men in black come into my house and find the assassination weapon, help, help, save me save me 😊)</td>
<td>Logged</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>-- Ragnar Benson</td>
<td></td>
</tr>
<tr>
<td>nbk2000</td>
<td>posted October 10, 1999 02:20 AM</td>
<td>You used kool-aid instead of citric acid and got nothing. Not surprising. Don't forget about the sugar, flavorings, dyes, and other crap. Just use straight citric from the canning section of the grocery store. You get much more for less.</td>
<td>Logged</td>
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<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot;</td>
<td></td>
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</tbody>
</table>
damnit there is no fucking canning section of a grocery store here. I got the unsweetened kind.
it worked I got a big yeild, I'm letting it dry right now.
sorry for the attitude but I have been looking for citric acid for a long time at the grocery store.

--------------
dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

IP: Logged

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--------------
dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

IP: Logged
If you can't find it, make it. Go to [http://hive.lycaem.org/ubb_board/Forum2/HTML/001316.html](http://hive.lycaem.org/ubb_board/Forum2/HTML/001316.html) and I have a very thorough post there about making citric acid from citrus fruits. That should help you out. Also try pharmacies and health food stores.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

---

Citric acid can be found at the wine makers section of shops.

Bandit

---

Fascinating post that was on the Hive, nbk2000. i have been looking for that info myself... My grocery store does have a canning section, and no it does not have any citric acid. Nor are there any wine stores in the area I know of, I would either have to buy it from chem supplier or make it. I know its is just a bottle of lemon juice away, but getting to pure crystals was the problem. Thank you very much...

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

---

I'm sticking this here for our own archival purposes, ya never know when the Hive may be taken down...

To Prepare Citric Acid, add 4.5 ounces chalk by degrees to 4 pints lemon juice, heated, and mix; set aside so that the precipitate can settle; afterwards pour off the fluid. Wash the precipitated calcium citrate frequently with warm water, then pour upon it 27.5 fluid ounces diluted sulphuric acid and 2 pints distilled water, and boil for 15 minutes. Filter and evaporate the filtered solution with a gentle heat, and set it aside so that crystals may form. To obtain the crystals pure, dissolve them in water a second and third time, filter each solution, evaporate, and set it aside to crystallize.

In conducting this process some care is necessary to ensure success. The chalk used should be dry, and in fine powder, and be added to the juice till its perfectly neutralized, and the quantity consumed must be exactly noted. The precipitated calcium citrate of time should be well washed with water, and the sulphuric acid diluted with 6 or 8 times its weight of water, poured upon it while still warm, and throughly mixed...
with it. The agitation must be occasionally renewed for 8 or 10 hours, when the dilute citric acid must be poured off, and the precipitate of calcium sulphate thoroughly washed with warm water, and the washings added to the dilute acid. The latter must then be poured off from the impurities that may have been deposited, and boiled until it acquires a specific gravity of 1.13, when the process must be continued at a lower temperature until a pellicle (crusty film) appears upon the surface.

This part of the process requires great attention and judgment, as, if not properly done, the whole batch may be carbonized and spoiled. At this point the evaporation must be stopped, and the concentrated solution emptied into warm and clean crystallizing vessels in a dry room. At the end of 4 days the crystals will be ready to be removed, when they must be well drained, redissolved in as little water as possible, and, after being allowed to stand for a few hours to deposit impurities, again evaporated and crystallized.

When the process has been well managed, the acid of the second crystallization will usually be sufficiently pure; but if this be not the case, a third, or even a fourth crystallization must be done. The mother liquors from several pans are collected together, and, by evaporation, yield a second or third crop of crystals obtained by evaporation as before. Citric acid crystals are obtained with great ease, but in some cases, where all the calcium citrate has not undergone decomposition by the acid, a little of that salt is taken up by the free citric acid, and materially obstructs the crystallization. This is best avoided by exactly measuring the quantity of the sulphuric acid to that of the calcium, 49 parts by weight of sulphuric acid to 50 parts chalk. In practice it is found that a very slight excess of acid is preferred to leaving any calcium citrate undecomposed.

2 gallons of lemon juice yields about 1 pound of crystals (about 5%).

Tests for the purity of citric acid: When pure, it does not yield a crystalline precipitate when added in excess to a solution of potassium carbonate, such a precipitate indicates the presence of tartaric acid. It is entirely soluble in water, and what is thrown down by lead acetate from this solution is entirely soluble in dilute nitric acid. No potassium salts (besides tartar) yeilds a precipitate with the aqueous solution. It is entirely decomposed by heat. Added sparingly to cold lime water it doesn't render it turbid.

Hope this helps you out.

---

**Nitrochem**

*posted October 11, 1999 08:26 AM*

If u don't feel like going through all that, Sears sells citric acid as a rosin cleaner in its water treatment section. I don't know the concentration though. You might also try the Photographer's Formulary (www.photoformulary.com) which has it for 6.50/lb. (shipping price's a bitch though).
Hydrogen Peroxide (cheap): 3% will work, as long as you keep reading. 6%, 12%, will work definitely.

Hexamethylenetetramine (cheap): Also called: Cystamine, Urotropine, Fuel Tablet, find it where fishing/camping/outdoor activity goods are supplied.

Citric Acid (cheap): pure, dry crystals at pharmacies. It gives you acidity to speed up the process, washed away in water, is stable too.

(HCl and H2SO4 sold for other than lab use have ferric ions (iron impurities) in them, will decompose H2O2)

Now follow the same instruction others told you (follow it word by word, ice bath and waiting is required), except adjust the amount of H2O2 as the concentration varies. I encourage you to put a little extra H2O2 in it as it will decompose.

**After a point that all ingredients dissolve in the same container: STOP!! nothing more goes into the mixture from now on, even the stirring rod!!**

Ice bath, sit cold as been told.

Now you have to reduce the water from the mix and I hope you used a shallow (but thick), plastic dish as the container. If not, DON'T change the container you use.

Use temperature around 40 C to warm it, till it SEEMS sticky AND has white crystals in it. Don't use anything to test if it is sticky, tip the container, if it doesn't flow AND has CRYSTALS in it, perfect! You should also be aware that at this stage it is able to kill. (It punched a hole in my dish when I poked it with a contaminated rod). *Note*: Don't attempt to dry out all the water, it won't increase your product yield. Do not sun-dry it as UV kicks electrons' ass. Be patient for the slow drying process, a deadly brew is worthy of several days. Prevent dusts to enter your container.

How to get the crystal in it? Flush the crystal into a larger, clean plastic/glass/ceramic bowl, then gather/filter the crystal in the bowl, wash again, warm it dry (again, no sun-dry)

There you go. High quality HMTD.
Pile some in a pile no larger than 3mm dia.
insert a long, burning bamboo/wood strip. insert horizontally, it will respond rapidly to the fire, gives you nice red-orange fireball and
no smoke at all.
Enjoy the fun.

---

Ho ju
Frequent Poster
posted October 13, 1999 09:14 PM

Is hexamine still sold in stores? I read somewhere else on this forum it was being replaced by a more reliable fuel?

-----------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

HMTD Factory
Frequent Poster
posted October 13, 1999 11:31 PM

Yeah, I got mine in such camping store.

-----------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.
**Author** | **Topic: Acetone Peroxide** |
---|---
**dlwdaw**  
Frequent Poster |  
I have become very interested in peroxides since I found a good cheap source of 12% and 6% hydrogen peroxide. I only have the 12% and I don't want to dilute it, and I don't have enough money to buy HCL, Acetone AND some more peroxide. Lowry's makeshit arsenal says to use 6%. Like I said I don't want to dilute it. Can somebody tell me the proportions to use to make AP with 12%.

Thank You in Advance

---------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

| **Author** | **Topic: Acetone Peroxide** |
---|---
**AlShoot**  
Frequent Poster |  
When you have 30% hydrogen peroxide the proportions are for example 10mL of acetone for 10mL of hy.per. So it is very easy:

with 12% hy.per. proportions are 25mL of hy.per for 10mL of acetone.

IP: Logged
**dlwdaw**
Frequent Poster

posted October 10, 1999 04:28 PM

DUH!!!!!, I forgot about that. and how much HCL would be used. thanks alshhoot.

-------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

---

**megalomania**
Administrator

posted October 11, 1999 03:58 AM

The ratio of hydroxide to acetone is 9 mL per 50 mL as I have it. That's 9 mL of 100% peroxide. 100 mL of your 12% peroxide would have 12 mL of pure peroxide, that's enough for nearly 67 mL of acetone. That's 5.55...mL of acetone per mL of peroxide.

-------------

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

---

**Ho ju**
Frequent Poster

posted October 14, 1999 06:24 PM

If you have 100% acetone peroxide and 20% HCl and 3% H2O2 what proportions would you use for each?

-------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

---

All times are ET (US)

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Contact Us | The Forum

Powered by: Ultimate Bulletin Board, Version 5.38
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Problems Making AP</th>
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</thead>
<tbody>
<tr>
<td><strong>HydraShock</strong></td>
<td>I'm having problems making acetone peroxide. I have pure acetone, 30% H2O2, and 3.9 Molar HCL. What proportions do I have to mix them in to get good results?</td>
</tr>
<tr>
<td><strong>dlwdaw</strong></td>
<td>where do you get 30% H2O2. besides a chem. supplier?</td>
</tr>
<tr>
<td></td>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
</tr>
<tr>
<td></td>
<td>-- Ragnar Benson</td>
</tr>
<tr>
<td><strong>HydraShock</strong></td>
<td>I get a five finger discount on it at a chem lab. Now will someone tell me what proportions I need to get good results?</td>
</tr>
<tr>
<td><strong>Apathetic</strong></td>
<td>You can get I think it's 27% hydrogen peroxide as a pool cleaner. It's called Baqua shock. I read that in a book sometime ago, it was called kitchen chemistry</td>
</tr>
<tr>
<td>Username</td>
<td>Post Date</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
</tr>
</tbody>
</table>
| Ctrl-C        | posted September 30, 1999 06:40 PM | I have talked to Andy (the 15 year old guy that runs the site) and he wouldn't tell me how to make AP
See if you can persuade him to tell us
his email is apcg@hotmail.com                                                                                                  | Logged      |
| VeHeMT        | posted September 30, 1999 06:49 PM | You guys are all crazy, just go to megalomania's website at http://surf.to/megalomania his page is completely dedicated to the
manufacture of explosives (currently) and megalomania was the person
Andy got the information from.
If you haven't noticed this board is run by megalomania. His webpage
URL is submitted with his posts often and under the Anoucements
section there is a list of links of the websites of the users of this forum.
That list is small right now but is growing.                                                                                     | Logged      |
| Andy          | posted September 30, 1999 07:48 PM | I do not run this site. I am just the moderator for the "Improvised Weapons" page.
That is not even my e-mail address. It is apcg@calisland.com.
Like VeHeMT said, go to another page and get the procedure there. I do not want to be held responsible for any wrongful or accidental acts.
Andy-                                                                                                                          | Logged      |
| HydraShock    | posted October 01, 1999 04:22 PM | Damn it, will someone just tell me how to make it with the stuff I have?!? Just tell me how much of each chemical I need to put in.                                                               | Logged      |
I got this information from Lowrys Improvised Arsenal. The peroxide he used was 6% so dilute your 30% by adding 1 part peroxide to 4 parts water (by volume).

1. Pour 200ml peroxide into a glass, to this add 150ml of acetone than 50ml hydrochloric acid.
2. Stir these mixed chemicals for 2mins than put into the fridge, leave for a good 3 days.
3. After 3 days all the crystals of A.P should have formed out of the mixture and formed a thick layer of white crystals in the bottom of the jar.

Also check my website (below) for bookz on making detonators and high explosives. And no legal disclaimers either.

------------------
"The knowledge that they fear is a weapon to be used against them."  
www.50megs.com/nbk2000

---
Ve He MT  
Frequent Poster

Hydra, you could have easily gone to megalomania's web page and found out by yourself instead of insisting of having the directions sent to you on a silver plater.

---
HydraShock  
A New Voice

Screw u people then. I just thought I could save myself some time by finding out what proportions I needed thru the forum. Since yur not helping, I'll do it myself.

---
Ve He MT  
Frequent Poster

HaHa! You must be really stupid.

nbk2000 just wrote them down for you!
HAHAHAHAHAHA
Fool.
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>VeHeMT</td>
<td>posted October 02, 1999 04:27 PM</td>
<td>And BTW the forum isn't here for ppl to save themselves time, it's here for the development of our knowledge, and since the information you wanted was already A) posted all over this forum and B) put up on the megalomanias and many other's webapages. In one of the first few posts in this thread, I mentioned megalomanias and due to either a lack of reading skills or just plain ignorance, you managed to completely ignore that one. I think you should work harder on your reading skills. ~ VeHeMT</td>
</tr>
<tr>
<td>HydraShock</td>
<td>posted October 02, 1999 08:19 PM</td>
<td>Whatever. Why would I want to dilute my H2O2 when I could use less of it? I did the proportions, &amp; my acetone peroxide is sitting in the fridge.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted October 02, 1999 11:14 PM</td>
<td>well congrats hydra i hope you feel special...知识就是力量，力量会招致腐败，腐败就是犯罪，犯罪是不会付钱的。所以你要知道的越多，你就越会破产!!</td>
</tr>
</tbody>
</table>
| AlShoot           | posted October 03, 1999 03:56 AM | Stop speaking to never say anything !!!!!!
| nbk2000           | posted October 03, 1999 04:30 AM | You asked for the info and then you change it anyways. It should work, but if it doesn't don't complain to us about it. The concentration and the amount of the reactant maybe important so follows directions next time. As a matter of fact, try using the directions and compare how much AP you get as compared to what you got your way. Then post it here. "The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000 |
megalomania Administrator posted October 04, 1999 09:39 AM

If you want it easier, try clicking on this
http://www.internettrash/megalomania/acetoneperoxide.html
The link is provided because the page that this leads is made just for acetone peroxide, to copy and paste it here would lose something in the translation. Thats why we have the referrals, no need to continually repost the same data over and over again.

------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

megalomania Administrator posted October 04, 1999 09:44 AM

Excuse me,
http://netttrash.com/users/megalomania/acetoneperoxide.html
they slipped a /users/ in on me

------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Ve He MT Frequent Poster posted October 04, 1999 07:43 PM

😊

------------------

Ho ju Frequent Poster posted October 14, 1999 06:33 PM

and ap can be used in blasting caps? if yes how many grams of ap would it take to make a # 8 blasting cap?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

------------------

Ho ju Frequent Poster posted October 14, 1999 06:35 PM

oops nevermind found the info on the blasting cap. sorry bout that.

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Acetone Peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlwdaw</td>
<td>posted October 03, 1999 05:13 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td>dlwdaw</td>
<td>I forgot to tell you, the links to the equipment section dont work I havent made the page yet. sorry</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

Hey guys, will this method be safe or even work?
[http://members.xoom.com/_XOOM/dlwdaw/primers/ap.htm](http://members.xoom.com/_XOOM/dlwdaw/primers/ap.htm)

thanks.

---------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson
If you're not sure if it's safe or will even work, why would you post it on your site where anyone can see it? Post it here so we can see it. If you post it on your site, someone would assume that it works and is safe (unless you state to the contrary) and maybe try it. When they do it and it doesn't work, or worse yet get injured, they'll think (rightly) that your posting bunk info and you lose credibility.

Credibility and a good reputation is the only thing a person has to separate them from the bullshit that's rampant on the internet. If you don't care about your rep then by all means post the process on your site.

I wouldn't, but then I'm not you. You have to decide for yourself how much you care about your rep.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

I pretty sure it wouldn't blow up. I used the proportions from http://go.to/explosives that is lowry'smakeshift arsenal.
I used the same proportions except I put the icebath in too make sure to keep it safe.
I say if you have 30 or 35% H2O2 to dilute it to 6%, which is the same as makeshift arsenal.
and would somebody please tell me if this would blow up or not. there shouldn't be any problem with people blowing themselves up. I havent submitted it to any search engines yet. you guys are the only ones that know about my page.

---------------------
dlwadaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

That lab procedure is just fine 😊 You might want to say use salt and ice instead of ammonium nitrate for the ice bath, the effect will be the same and you don't even need a stainless steel pan.

---------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Nick
Frequent Poster
posted October 04, 1999 12:51 PM

this is a safe and good way to make it.

100 ml Muratic Acid \{28\% HCL\}
300 ml Acetone
133 ml of 40 volume peroxide \{hair bleach\}

Mix, stir for 2 minutes, let stand in freezer for at least 48 hours a large amount of AP will have formed, filter and dry, reamber ice and salt and water are not needed Mixing AP is not explosive so dont worry!!

poison
Frequent Poster
posted October 04, 1999 01:37 PM

Oh man are you off acetone peroxide is a very powerfull primary explosive. AP is a explosive a powerfull one and a very dangerous one at that. How can you possably say that AP is not a explosive because it does not need a blasting cap? Or in small amounts it just makes a fireball? Well your wrong.

-Poison

Nick
Frequent Poster
posted October 04, 1999 07:20 PM

what i am saying is MIXING ap is not an explosive!! you could drop, light, or do anything to the chemicals before they percipitate. and even after the mixture creates the A.P. it is still hard to set off unttill they have been filterd and dried, \{ however this only takes about an hour before all the acetone evaporats if crystals are spread correctly.\} Yes A.P is very unstable and fucking with it will put your limbs in great danger, TREAT FINNAL CRYSTAL WITH GREAT RESPECT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

poison
Frequent Poster
posted October 04, 1999 07:54 PM

What i forgot to put earlyer is cooling the chems when mixing is a good idea it gives better yields. You do not have to but the little extra trouble would be worth it.

-Poison

Nick
Frequent Poster
posted October 05, 1999 01:04 AM

all that matters is that the chemicals be cooled during the reaction. even if the chemicals are cooled during mixing they still will not percipitate for a few hours.

IP: Logged
The cooling is necessary to get tricycloacetoneperoxide... If you let it get warmer, you will be making larger amounts of the less stable dicycloacetoneperoxide. Imagine that, a less stable acetone peroxide than it already is. Eeek

--------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Ho ju
Frequent Poster

can you store AP in any liquid (like water) to keep them safe and less sensitive before use

--------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Here is an excerpt from my pyrotechnic book:

"According to report, by presenting 2.8mole% of copper chlorate, Cu(ClO3)2.6H2O, in Potassium Chlorate, will enable the mixture of it with Sulfur to become eruptive mixture at room temperature."

That means you add very little copper chlorate into potassium chlorate, then oxygen-balance it with sulfur, it will become some low-temp explosive (?)..

If you are going to try, please wash your sulfur with alkaline solution, as sometimes there are acids formed during the industrial manufacturing process of sulfur, and acids will cause misfire in KClO3 related stuff, especially H2SO4.

-------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HELP!!!!!!!!!!!!</th>
<th>Post: posted October 14, 1999 09:07 PM</th>
</tr>
</thead>
</table>
| darceny    |                         | Ok, I need some help really fast. I have made up 4kg of black powder but the trouble is it doesn't burn. The ratio is as follows, 15:2:3  
3000 grams Kno3  
400 grams sulfur  
600 grams charcoal  
Does anyone know why it isn't burning?? I need it for tomorrow night so if anyone could help me out as quickly as possible i would be most greatful. What do i need to add?? and how much??  
thanks |

| Dr-D       |                         | Damn thats a lot of BP. I wish I had that much chemical hehe. I don't know about your proportions but they look ok.  
What charcoal did you use? I have used regualr charcoal briquettes before and smashed them into flour like dust with a hammer and it worked just fine. I then mixed the ingredients dry and it would light after a little while (dip a burning match in the powder to make some of it stick to it, then once it starts burning press the match into the corner of the pile). I have only done the CIA method once and I didn't see much improvement.  
I see it as you haven't tried hard enough to get it to light or your charcoal is whacky... |

IP: Logged
You got 3000 grams of KNO₃ = 30 moles
you got 400 grams of S = 12.5 moles
you got 600 grams of C = "50 moles!!!"

2KNO₃ + C + S -> K₂SO₄ + N₂ + CO₂
the oxygen balanced mole ratio should be
kno₃ : s : c = 2 : 1 : 1

in mass, the ratio should be
kno₃ : s : c = 202 : 32 : 12

stretch it up
kno₃ : s : c = 3030 : 480 : 180

there's "way too much charcoal" yet not enough oxygen.(u got 420g of extra charcoal,
more than twice of actually needed)

if u want to keep work on this thing :
you have to add 37.5 moles of s = 1200g of s
add 70 moles of kno₃, which is 7070g.

I would probably flush it into sewer and start over again if i was in such situation.

Or use water to extract KNO₃ to save it,if
you don't mind losing 3000 grams of KNO₃.

-------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.
Author | Topic: Help, someone....blackpowder trouble
--- | ---
**darcey**<br>Frequent Poster  | Ok, i need some help really fast. I have made up 4kg of blackpowder but the trouble is it doesn't burn.
The ratio is as follows, 15:2:3
3000 grams Kno3
400 grams sulfer
600 grams charcoal
Does anyone know why it isn't burning?? i need it for tomorrow night so if people could help me out as quickly as possiable i would be most greatful. What do i need to add?? and how much?? thanks

**Blaze**<br>Frequent Poster  | are you saying it doesn't burn at all?
have you tried smaller quantities?
even crapily mixed it should still burn if your using the right stuff.

**HMTD Factory**<br>Frequent Poster  | Ok, darcey, go check my reply on your earlier post of "HELP!!!!!!".
---------------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Putting AP in a freezer</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>posted October 11, 1999 01:50 AM</td>
</tr>
</tbody>
</table>
|               | Could you put the AP mixture (acid, proxide, acatone) in the freezer instead of a fridge? Will this speed up the reaction time or will I have to still store it for three days until the reaction has stopped? 
|               | one more thing, how sensitive is AP?? will it go off under the pressure of your hand?? could you please give examples. 
<p>|               | e.g. it will go off under the pressure of your foot or you dong or whatever. |
| megalomania   | posted October 11, 1999 03:47 AM |
|               | You need the freezer to get the lower temperatures, the lower temp insures you get the most stable form of AP. The 3 days is not necessary, but it helps to squeeze the highest yield out of the reaction. The stability varies, but a good blow should do it. |
|               | Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a> |
| Ho ju         | posted October 14, 1999 06:39 PM |
|               | so you should use the freezer and not the fridge? |
|               | Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! |</p>
<table>
<thead>
<tr>
<th>Username</th>
<th>Message</th>
<th>IP</th>
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</thead>
<tbody>
<tr>
<td>darcery</td>
<td>i did and it worked fine.</td>
<td>Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>is the freezer considerably better than the fridge or does it make little to no difference?</td>
<td>Logged</td>
</tr>
</tbody>
</table>

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

All times are ET (US)
A new type of bomb for you.

Take a blowtorch (You can get them very cheap) and bend the flame nozzle so that it points towards itself. Now turn on the gas, ignite the flame AND RUN!

After a few minutes, the flame heats the canister and the contents pressurises. As there is no exit for the pressurised gases inside, the canister explodes, and as the contents is propane/butane this also ignites, creating a huge fireball.
Do u guys know what's in a cartridge primer?
Yeah, the green stuff.
Thnx

Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

Mercymercury fulminate or how ever you spell it. Look on the back covers of gun mags, they sometimes have a diagram of a new bullet. It will tell you for sure what it is on there. im pretty sure its mercury fulminate.

nope it is lead styphnate I'am sure, they dont use mercury fulminate anymore it is toxic.

I have some old primers from a friend and he said dont breathe the fumes in because you will eventually die

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Ho ju
Frequent Poster

posted October 13, 1999 11:12 PM

yeah i am pretty sure they do not use mercuray fulminate anymore. i think it is the lead stuff that he was talking about.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

HMTD Factory
Frequent Poster

posted October 13, 1999 11:46 PM

The reason that I asked this question is that I wondered if I could buy a couple thousand primers since people buy them as reloading bench supply, and if there's chemical explosives(not mixing compound kind) in them, extracting those stuff out will be quite rewarding...

-------------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

dlwdaw
Frequent Poster

posted October 14, 1999 12:53 AM

a good way to get the explosive out of the primers is to soak them in a solvent, acetone I have heard. then let it evaporate, I suppose water could be used but it would be a bitch to evaporate(it would take days, and you couldn't heat it because of the primer material).

-------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Blaze
Frequent Poster

posted October 14, 1999 06:35 AM

I dont think it dissolves...
+ theres a foil disk between the explosive and the "anvil" that could get in the way..
+ since you said green, is it from a centrefire primer or rimfire as the only green stuff i've seen is in .22's.
The green stuff i found is in a rimfire, (so centerfire primer-stuff are diff eh? what they look like? Is there any sand in them?) it didn't dissolve(well) in acetone, but water can soften it into mud, guess it's bonded with gel or glue.

I burned some of those green mud and when the water ran out, it pop's rather than just ignite, so there's sensitive explosives in it for sure.

I rubbed the mud in my hand, didn't feel any sands in it as well.

I checked my pyrotechnic book, i found that some primer materials doesn't have high explosive in them at all, it uses common powder explosives, just add sand to make it friction sensitive.

But most of them contain Potassium Chlorate/ Antimony Trisulfide( Sb2S3)

--------------
Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

im unsure what is in .22's but it is most definately the high explosive "lead styphnate" in centrefire primers..
I cant fault the description and methods of go.to/explosives regarding rifle primers, so if you havn't viewed it yet, it should help.

To get the explosive out of primers,
You must pick the anvil out not year safe could set primer of by doing this ten soke then in actone once the actone has evaraped u will thae the explovie out of the primer

--------------
Great minds are't made at school
They are born!
<table>
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<tr>
<th>Author</th>
<th>Topic: ANFO and PICRIC ACID</th>
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<tbody>
<tr>
<td>dlwdaw</td>
<td>posted October 16, 1999 12:28 AM</td>
</tr>
</tbody>
</table>

how much nitrogen dioxide (or trioxide I can't remember in this reaction) will be produced if I made a small batch of picric acid. I think I will make around an ounce of finished explosive what would the proportions be.

and how much hmtd pressed into a portion of a bic pen case would be needed to detonate anfo.
also how much AP would be needed to detonate ANFO. how gard would I have to press then into the case.
also could someone refresh my memory for the ratio of ANFO.
one last question would I have to dry the ammonium nitrate from instant cold packs?
thanks

--------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
### What is - The Explosives and Weapons Forum

**HMTD Factory**  
Frequent Poster  

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: What is</th>
</tr>
</thead>
</table>
| HMTD Factory  
Frequent Poster | ![Image](post.png) posted October 14, 1999 12:04 AM  |

In about all explosive material/mixture lists, a thing called "Aluminum Ophorite" is always seen, what is an "ophorite"?

thnx

---

**Disclaimer**: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

**megalomania**  
Administrator  

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: What is</th>
</tr>
</thead>
</table>
| megalomania  
Administrator | ![Image](reply.png) posted October 15, 1999 11:38 PM  |

An ophorite is an explosive mixture consisting of 60% potassium perchlorate amd 40% magnesium powder. The explosive was developed by the British in World War I to burst shells filled with gas or smoke bomb material, it makes a lot of heat to ignite the bomb but not scatter it. Aluminum ophorite would use aluminum perchlorite instead of potassium.

-------------------

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)

**HMTD Factory**  
Frequent Poster  

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: What is</th>
</tr>
</thead>
</table>
| HMTD Factory  
Frequent Poster | ![Image](reply.png) posted October 16, 1999 01:15 AM  |

I got it thanx.

-------------------

**Disclaimer**: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.
what is???

Author: wave
Frequent Poster

Topic: what is???

posted October 16, 1999 07:40 PM

i ran across a compound called PELLITE it looks very powerful.
if anyone know anything about this stuff or even knows how to make
this or something close to it it would be great.
thanks for your time and help

---------------------

it may be cool but be smart

All times are ET (US)
on the weekend, after my batch of blackpowder didn't work some friends and i decided to blow up some aerosol cans by sitting them in potassium nitrate+sugar mix. That was fun until we ran out of cans so we got some beer bottles (empty) and filled them with petrol. We then stuffed rags in the necks so they where air tight. We then poured a pile of kno3+sugar and placed the bottle of petrol in the middle of the pile, lit the fuse and ran. Well it all caught on fire and we thought it wasn't going to do jack shit until about 30 seconds after it caught fire there was a loud bang and the burning rage when about 100 feet in the air, throwing sparks and shit every where. Well its not really an explosion but it looks really cool when you off it.

sounds sweet molotov cocktails are cool also. me and my friend made on and threw it into an area of wet tall grass. it was cool.

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
sounds pretty cool i will try it
you should try to put some food can in a fire, like corn or come kind of metal can that it air tight
when you do so you will hear a small ding that means it will blow.
it is suppose to be louder then a paint can.
does any one know how to make PELLIT if it is possable.
----------------
it may be cool but be smart
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Fire starts What the fuck are they made of!!</th>
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<tbody>
<tr>
<td><strong>PryoTeK</strong></td>
<td>Frequent Poster</td>
</tr>
<tr>
<td><strong>Igenx</strong></td>
<td>Frequent Poster</td>
</tr>
</tbody>
</table>

**PryoTeK**

- Frequent Poster
- Posted October 18, 1999 06:40 AM
- What are fire starts made of, the whit ones
  - is it hexamine? or what is it??
  - thanks
- ---------------
  - Great minds are't made at school
  - They are born!

**Igenx**

- Frequent Poster
- Posted October 18, 1999 10:09 PM
- I asked that question before. Why don't you search the archives before repeating a post?

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Acetone peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fjp92</strong></td>
<td><strong>posted October 19, 1999 07:12 AM</strong></td>
</tr>
<tr>
<td>A New Voice</td>
<td>Why should the peroxide, acetone mixture be placed in a fridge? I have never done it like that before and still got a nice product. (I did use more concentrated H2O2) Might it mean that my product is less stable, and if it is why?</td>
</tr>
</tbody>
</table>

| **Bob's RAC**    | **posted October 19, 1999 04:23 PM** |
| A New Voice      | from what I have been led to believe, the reaction must occur between 5 & 10 degrees C for the trimer to precipitate. If the reagents are above this temperature, the dimer is produced. It is supposedly less stable and less powerful. Please post back if I am incorrect. |

| **Ho ju**        | **posted October 20, 1999 03:54 PM** |
| Frequent Poster  | Fjp... haven't you noticed that a few posts down there is another acetone peroxide link? did you read that before you posted. do not waste space. |
|                  | Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! |

All times are ET (US)
I'm looking for any easy to make rocket fuels. I have looked thru my info and haven't found anything that seems it might work; I don't mean blackpowder for this, but something with a faster burn rate.

For small motors, I have found that KN03 and Sucrose finely milled into a powder makes an excellent rocket fuel. It is quite simple to prepare and has a very high burn rate. Only drawback is that the motors need to be stored in airtight containers. Though I have tried motors with quite a bit of moisture in them and they still worked quite exceptionally. The proportions can vary quite a bit, a 60% KN03 and 40% sucrose works well, this can still vary though.

The propellant must be rammed into the rocket motor casing's so it will burn slow enough, otherwise it can explode. A core pretty much needs to be there too.

If used in very large motors, it is very advisable to melt the two together then casting it into the casing, as to ensure a solid propellant grain without any cracks or faults which can cause an explosion.

Funny, I have heard from three other people that the sugar KNO3 mix burns slower than blackpowder. I tested the fact and, when both are milled to the same size, blackpowder appeared to burn faster.
**nbk2000**

Frequent Poster

The vitamin C propellant has a faster burn rate than BP. It doesn't mention melting so I don't think that would be possible. But it can be compressed into a solid grain using drystarch as a binder. You have to use a press to get enough pressure to solidify it. Maybe if you use a slightly water moistened starch paste and ram that into the case it would dry into a solid enough mass.

"The knowledge that they fear is a weapon to be used against them."


---

**VeHeMT**

Frequent Poster

It is indeed true that that BP burns faster then th KN03 Sucrose propellant, but the KN03 Sucrose actually has more power, and since its not nearly as easy to make an engine explode (only happened to me when I was testing nozzle sizes) it is a bit more reliable. BP requires much more labour to prepare (if a grade of high enough quality to launch a rocket, launch/burst a shell etc..) then the KN03 Sucrose mix. Simply weigh the ingredients, throw into the mill, and wait a few hours =]

I did not get very good results with the Vitamin C caplets. I can only blame this on the fact that there where simply too many additives in the pills. I will purchase some of the pure ascorbic acid soon and test that out in rocket motors and small salutes.

Also something to be noted, the KN03 Sucrose when burned will leave no slag which happens very often with homemade BP.

**Igenx**

Frequent Poster

If the ratio of sucrose/ KNO₃ is too far off it does produce quite a bit of slag. I'll try another batch to make rocket engines. (The first two were used to make fuzes because they are both water soluble and a saturated soloution of the two absorbs into a string easily)

**Igenx**

Frequent Poster

I should have included this in the last post, but does anyone have any idea how much of this mix is nescessary to propell a 200g payload 400 meters?
Ve He MT  
Frequent Poster

I have yet to make a batch of it with any slag. Only the soft porous ashes. It loses the porous solid structure and turns into a fine powder when rubbed between the fingers.

nbk2000  
Frequent Poster

The vitaC powder was the same way. No slag and carbon powder that disintegrated on touching. Have the components but haven't gotten around to making another batch yet. Should be interesting to experiment with though.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

Dr-D  
Frequent Poster

I was experimenting this weekend with several mixes of fuels, and found flour to burn interestingly. When KNO3 is mixed with flour, it tends to burn slower than sugar, but seems to produce a LOT of gas. This may or may not be helpful for rockets. I noticed that it burned for a long time, while having a loud hiss and a long stream of burning gass shooting out of the end of a loosely wrapped coffee filter. It takes a while to get it lit and going.

*Igenx*  
Frequent Poster

Thanks for the responses, but Dr D I don't think that would help. I am developing plans for a homemade rocket launcher and The fuel must start burning extremely fast.

Bob's RAC  
A New Voice

If the flour mixture does produce ample propulsion, an ignition stage of a more readily ignited fuel such as the sugar mixture may work.

Bob’s Rent A Cow

Nick  
Frequent Poster

KNO3 is is Vitamine C correct?? I have a lot of this shit {ascorbic acid} I dont the how to mix it though.. i use surgar right?? well, will some one that has made some that worked real good let me know the correct proportions.. also how sensitive is it?
KNO3 is potassium nitrate AKA saltpeter or nitre. You mix this with the vitamin C to make the propellant powder. 35% vit C with 65% saltpeter, by weight. Mix to a thick paste with rubbing alcohol, and stir and mash while it dries. My website has complete details in the explosives section.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
<table>
<thead>
<tr>
<th><strong>Author</strong></th>
<th><strong>Topic:</strong> nirtomethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td><strong>posted October 04, 1999 01:10 AM</strong></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can anyone tell me what the hell nirtomethane is and also where i would be most likely to find it within Australia? I did some reading on it but it didn't really help, i know its some kind of powerful solvent but where can i buy it?? if anyone know could they please tell me.</td>
</tr>
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<table>
<thead>
<tr>
<th>nbk2000</th>
<th><strong>posted October 04, 1999 02:14 AM</strong></th>
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<tbody>
<tr>
<td>Frequent Poster</td>
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<tr>
<td></td>
<td>I don’t know how australia is, but it’s almost impossible to find any common product that contains nitromethane. The only thing that contains any appreciable amount is model race car fuel. Up to 75% NM. You have to distill off the methanol and then the NM from the castor oil which is left in the distilling pot. You can also use it straight if the concentration of NM is high enough.</td>
</tr>
</tbody>
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"The knowledge that they fear is a weapon to be used against them."

<table>
<thead>
<tr>
<th>PryoTeK</th>
<th><strong>posted October 04, 1999 05:13 AM</strong></th>
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<tbody>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I have not seen nirto at a model shop and i live in Australia 😊</td>
</tr>
</tbody>
</table>
If they sell model airplane fuel, then it's there. Maybe not listed or could be using a more technical name than nitromethane. Australia kind of sucks though since they took everyones guns. Next they'll be telling you to turn in your baseball bats and golf clubs because "someone may hurt someone with them, WAAAAAAA!" Please. And what's worse is all the sheeple (sheep people) did what they were told to do and turned them in. You'll never get them back either. Once you give up a freedom, the goverment never gives it back unless the people take it back by force.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

---

your damn right nbk. if anyone came looking for you guns in the USA there would be a DAMN VIOLENT insurrection that would cause the death of many people. and also what you said about the gov not giving them back probly holds true for this. Governments have a way of only taking and taking and never giving. and without guns there is no way to take anything back. anyone that lives in australia is basically screwed. i suggest moving to the US as soon as possible. here there is TRUE democracy.

---------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

Ho Ju, your statements confuse me.

First you are infuriated with your own government for "restricting" information concerning the manufacture of explosives, and now you are all patriotic about how your country is a TRUE democracy. If I may say so it's not a good thing to have enough guns in a country for everyone and then some (alot more some). What are guns designed to do? KILL. What do life forms do? LIVE. Why would you want everybody in a country to be able to wipe each other out? I realize I may be seriously criticized for this post, but that is not my concern. My concern is the fact that many of you have the ideal that it is a good thing for everybody to be armed. Why? It may be fun or even somewhat of a power high to have the ability to kill or control another person, but is that not the complete opposite of what a functioning democratic society needs? One fifth of children in the USA are living in poverty, not a good thing. Then again thats not so bad considering many of the other countries in the world are completely immersed in poverty. But it could of course ever so easily be improved.

Just my share,
<table>
<thead>
<tr>
<th>Username</th>
<th>IP Address</th>
<th>Post Date</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>darc ey</td>
<td>Logged</td>
<td>October 06, 1999 12:30 AM</td>
<td>well its cool that you guys have your little debate going about gun laws and stuff but i really need to know if i can uses anything else insted of nitromethane which seems to be a bit hard to get. im trying to mke the AmNitrate plastic explosive from <a href="http://www.go.to/explosives">www.go.to/explosives</a>, has anyone made this themselves? if so what did you use insted of nitromethane or where did you get the nitromethane from. Don't get me wrong i think that the gun laws in this country are up for debate but this is about explosives not politics and oppinions, isn't there a seperate section from that??</td>
</tr>
<tr>
<td>nbk2000</td>
<td>Logged</td>
<td>October 06, 1999 03:44 AM</td>
<td>I got quite a lot to say about our goverment and gun control, but I'm not going to get off topic. I hate that myself. As for alternatives, several patents have mentioned that just about any organic liquid nitrate will work, such as nitropropene, 3-ethylhexyl nitrate, ethyl or methyl nitrate. As long as it's a nitro or nitrate with a alkyl or alkene group attached it will work. A good place to start looking would be <a href="http://164.195.100.11/netahtml/search-bool.html">http://164.195.100.11/netahtml/search-bool.html</a>. This is the official US Patent website. Use the search page (above) and type in &quot;nitromethane&quot; and &quot;explosive&quot; or &quot;sensitizer&quot;. That should clarify any further questions. &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td>elect ra</td>
<td>Logged</td>
<td>October 20, 1999 04:15 PM</td>
<td>I don't know about australia but here in blighty you can buy Nitromethane neat from most model shops. it is used if you want to mix your own model fuel. It would be supplied by model technics (probably) ps. the author of makeshift arsenal was confused as to why he got a headache from messing around with it (idiot!!) it is just the same as any other volatile organic solvent - it messes with your brain and either makes u high or gives you a bloody awful headache.</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>Logged</td>
<td>October 20, 1999 06:51 PM</td>
<td>Actually it most likely was because of the nitroglycerine, not the nitromethane. As nitroglycerine causes very bad headaches.</td>
</tr>
</tbody>
</table>
anyone think there should be a thread for open debating? We can debate by topic, the topic being chosen by popular vote or just whatever seems right at the time.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Here is a thread to hold debates on. Anyone got a good idea for the first topic?

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

Yeah, who can tell me what the Misc forum is for 😊

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---
**Hehe** - The Explosives and Weapons Forum

**Topic:** Hehe

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<tr>
<td>Ve He MT</td>
<td>posted October 21, 1999 03:13 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Ha ha ha, Good Job mega, on the way you handled the debate thread = ]!</td>
</tr>
<tr>
<td></td>
<td>I'm laughing my ass off</td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
</tr>
<tr>
<td>Ve He MT</td>
<td>posted October 21, 1999 03:16 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>hehe, you may aswell delete this thread, hehe</td>
</tr>
<tr>
<td></td>
<td>sorry,</td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted October 21, 1999 03:59 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>sniff sniff...i think i am going to cry 😢yeah my bad.</td>
</tr>
<tr>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
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All times are ET (US)

**Administrative Options:** Close Topic | Archive/Move | Delete Topic

Contact Us | The Forum

Powered by: Ultimate Bulletin Board, Version 5.38
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<th><strong>Author</strong></th>
<th><strong>Topic:</strong> toluene vs nirtomethane</th>
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<tr>
<td><strong>darcey</strong></td>
<td>Frequent Poster</td>
</tr>
</tbody>
</table>

**i was just wondering if you could substitute toluene for nitromethane in the ammonium nitrate/homemade C-4 explosive?? Nirtomethane is alittle hard to come by by this toluene shit it every where. Would it work?? a chemist frined of mine said that it would not likley work but im not sure.**

*IP: Logged*
Author: wave

Please help me on this subject

The process on making perchlorate
From the battery process with the carbon rods
What is the correct steps and does this really work? I heard it does but I am not sure.

And how fast does this stuff ignite in m/s

Thank you for your help

-------------------
It may be cool but be smart

Author: VeHeMT

Here is a file that nbk has e-mailed me a while back. Its from the net.

How to Synthesis
Potassium Perclobrate
MAKING POTASSIUM PERCHLORATE

This procedure is a "tried and true" method. Unlike some rec.pyro postings, which are informational, or just plain speculative, this procedure WORKS. I have used it myself to make my own supply of perchlorate - until I decided to quit because I was making it far too fast to use.

This procedure works well to make chlorates as well. The procedure can be modified easily to make only chlorates. When using this procedure to make perchlorate, it produces significant amounts of chlorate as a by-product. This is because carbon rods are not highly efficient in converting chlorate to perchlorate. Other anodes work better, but this procedure was designed using easily available common materials and supplies.

Carbon Rods

Get some carbon rods from the welding shop. They are made by "arcair", and are 3/8" diameter by 12" long, and cost between 40 to 60 cents(US).
each. They are copper plated, and they are used for a welding procedure known as "gouging".

Cut off the top of a plastic 1 gallon milk jug. This is a good cheap source of containers for using in this procedure.

Dissolve 1/2 cup of salt in 2 liters of warm water. Put this in a small plastic container. Cut out a piece of coffee can, roughly 4" by 4" with a tab extending up to connect a wire to. The dimensions are not critical. With a 6 volt battery charger, connect the minus (-) connector to the piece of coffee can. Wrap some aluminum foil on the end of the carbon rod, to improve the electrical connection, and connect the plus (+) connector of the charger to it.

Turn on the charger, and let it run for about 20 minutes. The copper will be removed from the rod. If some still remains, run it for a little longer till it is free of copper. Discard the salt water used to remove the copper. You can probably use a 12V charger, but the current may get too high, so you may need to reduce how much of the rod is being etched at one time.

Electrolyte solution

Make a mixture of salt and potassium chloride solutions. Dissolve roughly 2 ounces (60 grams) of salt, and 8 ounces (240 grams) of potassium chloride in 2 liters (just a bit more than 2 quarts) of hot water. There is much room for inaccuracy here, because the exact mixture is not absolutely critical. At this point, it is good to add between 2 to 10 grams of either potassium chromate or dichromate. While this is not absolutely necessary, it helps improve how much perchlorate is finally produced. The process will work without it, but not quite as well.

NOTE: Potassium chloride can be obtained as several commonly available products, such as: dietary salt substitute, ice melter (look at label for actual contents), and "muriate of potash" from farm and garden supply shops. Hagenow Laboratories carries potassium dichromate.

The reason a mixture of salt and KCl is used, is two fold. First, salt is more easily electrolyzed than KCl, but after it converts to chlorate (and perchlorate), it will tend form the potassium salt instead of the sodium salt. The electrolysis tends to work on the sodium salt, while the final potassium perchlorate forms, and due to it's poor solubility, tends to crystalize out of solution. Secondly, the concentration of KCl is chosen to help prevent chlorate from crystalizing out, while being too high for the perchlorate to remain in solution, which causes it to crystalize out as it is created. These concentrations may be varied, to compensate for different operating temperatures. It was designed to operate at 40C, and will work fine above that temp, but below it, you might get some chlorate crystalizing out, in which case you might need to reduce the amount of KCl just a little. I have been using a little salt in my mixture, but someone could exclusively electrolyze KCl, without the addition of

BTW, chlorates are produced here as an intermediate chemical product. Chlorates tend to be the predominant component around 1 1/2 to 2 days of operation. Chlorate could be caused to crystalize out during electrolysis if the concentration of KCl in the starting electrolyte solution is increased to nearly saturation (about 21 ounces KCl/ with 2 ounces of salt). Although I have not concentrated on chlorate production, I would expect that you could actually run it for more than 2 days - possibly up to 4 or 5 days, and
keep building up a layer of largely chlorate crystals on the bottom. In that case, I would _GUESSED_ that you could get around 2 pounds of chlorate after 5 days of operation.

**Electrolysis**

Using a coffee can for a source of steel, cut it out to form an inverted U shaped trough. Insert it in the mixture of salt and KCl dissolved in water. The (-) connector is connected to the steel. The steel U trough (similar to a rain gutter, except upside down) is sitting at an angle to increase the amount of surface area in contact with the liquid. The carbon rod has some aluminum foil wrapped around the end of the rod, and the (+) connector is connected to it. The rod is positioned within the U shaped trough - under it, without touching. The charger is turned on, and the position & depth of the rod is adjusted to get 8 to 12 amps of current.

**NOTE:** A setup with the electrodes running electricity through an electrolyte is called a "Cell". This setup is commonly referred to as a cell throughout this description.

Let the liquid electrolyze for about 5 days continuously. Add water to make up for water lost during the process, and try to keep it roughly constant. A couple times a day, you will need to check the current level, and adjust the rod position to keep the current in the 8-12amp range. Mine has been running between 40 - 50C, but commercial procedures keep the temp just below 40C to reduce carbon rod erosion. The rods will gradually erode away, but if you use a 6V charger, one rod will probably last for the full 5 days. You can also use higher voltage chargers, but you will probably need to connect several electrolytic cells together to keep the voltage across ONE cell to be about 6 volts. If you use a 12 V charger, you will need 2 cells (12V/(6V per cell) = 2cells). If you connect more than 1 cell in series, you may need to use a voltmeter to check the actual voltage across each cell - because it will change depending upon the resistance differences between the cells, which can be adjusted.

**Crystalization**

The potassium perchlorate crystallizes out as it electrolyzes. When you're done, you have a mixture of black carbon, perchlorate, and some chlorate after you drain off the liquid. I generally get a layer of perchlorate crystals about 1 inch (2.5cm) thick on the bottom, which tends to be about 1 pound. Cool the liquid in a freezer to help increase the amount of perchlorate that is crystallized out, before draining the electrolyte liquid. When draining the electrolyte, save it if you want to re-electrolyze it to make even more perchlorate again. Load the crystals into a filter, and use boiling water to dissolve the perchlorate out. As it filters, the perchlorate forms nice flat rhombic shaped (almost square) flakes that float out of solution. You watch it as it cools, and watch for chlorate crystals, which tend to look like clusters of cactus needles. When they start to form (well after the perchlorate has largely crystallized out), you drain the liquid, and add some room temp water eral times with cold water.

**Example:** 100 grams of crystals would require 100grams/(7gm/100ml) = 14.3 (100 ml), or 1430 ml of water, or about 48 ounces.

**NOTE:** When harvesting the crystals, a cotton cloth makes a good filter. I
wear rubber gloves, and squeeze the excess liquid from the crystals before & during washing them. Squeezing helps remove additional contaminants which are dissolved in the liquid that wouldn't otherwise be removed by simple gravity filtering. While this method loses very small crystaline particles, the loss tends to be very small in comparison to the amount of crystals harvested. Perchlorate is very easy to make, but it takes a little work. The hardest ingredient to get is patience.

Fjp92
A New Voice

Go and look on the internet for a page called Wouters Vissers pyrotechics page.

If you want to make perchlorates corbon rods wont hold up. Its only goog for chlorates.
You need to plate corbon rods with PbO2 to make perchlorates. The page explain how to do it but it is realy difficult. i tride but i could not get PbO2 coutings that would stay on the corbon rods.

I go and look for page sometime and see if i can find it again. Then ill post it.

Ve He MT
Frequent Poster

http://huizen.dds.nl/~wfvisser/EN/kclox_EN.html

That is the particular page one his pyrotechnic page. He has also in collaboration with others on the internet made another site that goes much more in depth of the subject. I may post it if someone wants to see it.

dlwda w
Frequent Poster

go ahead post isn't it http://users.foxvalley.net/~chemengr or something like that I have it in favorites but am too lazy to go find it :\

------------------
-dlwda w

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Ve He MT
Frequent Poster

posted October 21, 1999 07:08 PM

http://users.foxvalley.net/~chemengr/kclo4a.html

wave
Frequent Poster

posted October 21, 1999 10:16 PM

thanks for all your help those are some good pages

All times are ET (US)

i need info please - The Explosives and Weapons Forum
Chlorate and Perchlorate Manufacturing at a Small Scale

Introduction

Chlorates and perchlorates are among the most often used oxidisers in pyrotechnics. Especially potassium perchlorate, KClO$_4$, potassium chlorate KClO$_3$, ammonium perchlorate, NH$_4$ClO$_4$, and barium chlorate BaClO$_3$ are used extensively. Chlorates and perchlorates are chemically related but from a pyrotechnical standpoint perchlorates are generally safer to use. Chlorates require special handling. Mixtures made with it are much more sensitive and some may ignite spontaneously. Potassium chlorate is extensively used commercially since it is cheaper than potassium perchlorate, and many accidents have happened that might have been prevented if the corresponding perchlorate was used instead. Therefore, I don't recommend the use of chlorates by amateur pyrotechnists. If you do use them, make sure you really understand what you are getting involved with.

The amateur pyrotechnist can prepare chlorates and perchlorates at home, although it takes some effort. Homemade chemicals are usually more expensive than commercially produced chemicals and it is of course laborous, but taking shipping costs into account, the fact that perchlorates and chlorates are sometimes quite hard to obtain in most countries and their usefulness in pyrotechnics it may pay to try to make your own. Chlorates are the easiest to prepare, but again, the use of chlorates is not recommended for amateur use.

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The information is split up in three sections, one on chlorates, one on perchlorates, and one of analysing the products of your efforts. The most commonly used method to prepare both chlorates and perchlorates is the electrochemical method, which is described better in the text on chlorate synthesis. The text on perchlorate synthesis often refers to it, so even if your main goal is to prepare perchlorates it is a good idea to read both texts.

- Preparing chlorates
- Preparing perchlorates
- Analysis of products

Credits

The information on these pages is a selection of the experiences, results and ideas shared with me over a number of years by a group of people interested in chlorate and perchlorate synthesis. If not for them, these pages would not exist. Therefore, many thanks go to Rich Weaver, Mike Brown, Lee Clock, Johan Grundlingh, Rande Pete, James Carle, E.S. and a few
Chapter 1: Introduction

On an industrial scale, chlorates are prepared by electrolysis. Electrolysing a solution of a chloride at elevated temperatures yields a chlorate. This method can be downscaled quite easily for amateur pyro purposes. Other methods of chlorate manufacture exist that may be of interest for small scale use. They are usually less efficient but the economy of the process is not as important for amateur pyro purposes as it is for industrial setups. A second method for example consists of heating a solution of hypochlorite. Sodium and calcium hypochlorite are both quite easily available as bleach and pool chlorinating agent respectively. Upon heating, the hypochlorite will decompose into both chloride and chlorate. The chlorate is separated and purified. Although slow and laborous, the method is simple and requires very little equipment. In the past chlorates were produced even on an industrial scale by bubbling chlorine gas through a hot hydroxide solution. This process is not very well suited for amateurs since chlorine gas is very dangerous to handle. The process is also extremely ineffecient, for which reason it was abandoned quite soon after the electrochemical method became feasible at industrial scale.
Chapter 2: Electrolytic preparation

The electrolysis is carried out in a diaphragmless cell, containing a solution of a chloride. Several chlorides may be used, but the use of sodium chloride has many advantages. Sodium chlorate is easily converted to a number of other chlorates by metathesis reactions. The most commonly used chlorates in pyrotechnics, potassium and barium chlorate, can both be made in this manner. Potassium chloride and barium chloride may also be used to obtain the respective chlorates directly, but this has many disadvantages as will be discussed below. Only sodium chlorate can be used in the manufacture of perchlorates, due to its high solubility.

Ammonium chloride should never be used, and should in fact not even be present in the cells in trace amounts. It could result in the formation of two dangerously sensitive and explosive compounds, nitrogen trichloride (NCl$_3$) and ammonium chlorate (NH$_4$ClO$_3$). The formation of both of these compounds should be avoided at all times. Not only can they explode by themselves when present in significant quantities, they can also lead to spontaneous ignition of pyrotechnic mixtures contaminated with even small amounts.

2.1 theory

Mechanism of chlorate formation

The reactions taking place in chlorate cells are not fully understood even today. A summarised description of the process will be given here, and the interested reader is referred to the literature listed below for a more extensive description.

The theory of Foerster and Mueller regarding the reactions in chlorate cells, developed about 80 years ago, is the most accepted. The following reactions are said to take place at the electrodes:

At the anode:

\[ 2\text{Cl}^- \rightarrow \text{Cl}_2(aq) + 2 \text{electrons} \]

At the cathode:

\[ 2\text{H}_2\text{O} + 2 \text{electrons} \rightarrow \text{H}_2 + 2\text{OH}^- \]

The dissolved chlorine gas can then react with water to give hypochlorous acid:

\[ \text{Cl}_2(aq) + \text{H}_2\text{O} \rightarrow \text{HClO} + \text{H}^+ + \text{Cl}^- \]

From this reaction it can be seen that if the chlorine does not dissolve but escapes to the atmosphere, no H$^+$ will be generated to neutralise the OH$^-$ formed at the cathode and the pH of the electrolyte will increase.

The hypochlorous acid thus formed will react in acid-base equilibrium reactions with water to give hypochlorite ions and chlorine gas (dissolved). The exact concentrations of dissolved Cl$_2$, ClO$^-$ and HClO depend on the pH, temperature and pressure among other things. In the solution, chlorate will be formed (mainly) by the following reactions:

Preparing chlorates

\[
2\text{HClO} + \text{ClO}^- \rightarrow \text{ClO}_3^- + \text{H}^+ + 2\text{Cl}^-
\]

and

\[
2\text{HClO} + \text{ClO}^- + 2\text{OH}^- \rightarrow \text{ClO}_3^- + 2\text{Cl}^- + \text{H}_2\text{O}
\]

These reactions take place at a rather slow rate. Since this reaction pathway is the most efficient one as we will shortly come to see, the conditions in the cell are usually optimised to increase their reaction rate. The pH is kept within a range where HClO and ClO\(^-\) are simultaneously at their maximum concentration (which is around pH=6). The temperature is kept between 60 and 80 degrees centigrade, which is a good compromise between the temperatures required for a high reaction rate, low anode and cell body corrosion and high chlorine solubility (remember the chlorine evolved at the anode has to dissolve in the solution to start with). Many cells also have a large storage tank for electrolyte in which the electrolyte is kept for a while to give these reactions some time to take place.

Alternatively, chlorate may also be formed by oxidation of hypochlorite at the anode as follows:

\[
6\text{HClO} + 3 \text{H}_2\text{O} \rightarrow \frac{3}{2} \text{O}_2 + 4\text{Cl}^- + 2\text{ClO}_3^- + 12\text{H}^+ + 6\text{electrons}
\]

Oxygen is evolved in this reaction, which means a loss of current efficiency (the energy used for oxidising the oxygen in water to the free element is lost when the oxygen escapes to the atmosphere). When the reaction routes are worked out, it turns out that following this path 9 faradays of charge are required to produce 1 mole of chlorate, whereas only 6 faradays are required to do that following the route mentioned earlier. Therefore, optimising the conditions for that route improves current efficiency.

To prevent the products from being reduced at the cathode again, a membrane around the cathode was employed in the past.

Finally, it should be mentioned that the reactions forming perchlorates do not take place until the chloride concentration has dropped to below about 10%. Therefore, cells can be constructed and operated in such a way that chlorate is produced almost exclusively. The chlorate can then be purified and fed into a perchlorate cell. Depending on the type of anodes used in the chlorate cell, the purification step may also be skipped and the electrolysis continued until all chloride has been converted into perchlorate. Although slightly less efficient (and therefore not used a lot in industrial setups), this is much less laborious and therefore probably the preferred method for home setups.

**Cell voltage**

The current through a cell is related to the reaction rate. Therefore, to obtain a constant reaction rate that suits the cell design, a constant current is usually employed. The voltage over the cell will then fluctuate depending on conditions and cell design. The power consumed by the cell is the product of current and voltage, according to equation \( P = I \times V \). From that it can be seen that reducing the voltage over the cell results in a lower power consumption, an important fact for industrial operations. The factors influencing the cell voltage have been thoroughly investigated. Most important are the anode - cathode spacing, the concentration of the electrolyte, the surface area and materials of the electrodes the temperature and the pH. Without going into details, the cell voltage usually lies in the range 3.5 - 4.5 volts. Of this,
approximately 3 volts are required to get the oxidation of chloride to chlorate to take place (and the hydrogen reduction at the cathode), while the rest is used to overcome the resistance of the cell, according to Ohm's law \( V=I*R \). From this law it can be seen that there are two ways to maintain a constant current through a cell: either the voltage over it may be varied or its resistance may be changed. Adjusting the voltage over a cell to maintain a constant current can be done manually or with an electronic circuit. If the power supply does not allow voltage adjustment (such as old PC power supplies or battery chargers for example) or the required electronics are not available, adjusting the resistance of the cell is another option. This could in principle be done by adjusting each of the factors mentioned earlier, the most practical of which is probably the anode-cathode distance. By increasing the distance between the electrodes the resistance of the cell is increased, which reduces the current through the cell. One thing to keep in mind when doing this is that it with decreasing resistance, the heat generated in the cell is increased. Depending on the anode material used it may then be necessary to cool the cell to prevent excessive erosion, more on that later.

2.2 Cell construction

Cells can range in complexity from a glass jar with a nail and a old battery electrode to well designed, corrosion resistant cells with thermostats, pH control, circulating electrolyte and coulometers. Even the simplest of cells will work, but it will require more maintenance. If the chlorates are going to be prepared on a more or less regular basis, it probably pays to spend some more time designing a cell. It will also improve efficiency somewhat, but unlike in industrial setups where high efficiency is mandatory to be able to compete, the home experimenter can do with less efficient cells. The two main disadvantages of a low efficiency is that it takes more time for the conversion to complete, and that more electricity is required. To give some indication of the power consumption of the process: typical figures for industrial cells lie in the range 4.5 to 5.5 kWh per kg of sodium chlorate.

In this section some of the things to consider when building and designing chlorate cells will be discussed. The reader can design his own cell based on the information given. An example of a cell, the small test cell I currently use to experiment with, has been given but it is by no means perfect, and it is probably better to design your own. The example has merely been given to illustrate some principles.

2.3 An example

The example given here consists of a small cell, of 200 ml electrolyte volume. The cell is normally operated with graphite or graphite substrate lead dioxide anodes. Platinum sheet has also been tried with, unsurprisingly, good success. The electrolyte consists of sodium chloride with either some potassium dichromate or potassium fluoride added, depending on whether graphite or lead dioxide anodes are used.
used. The cathode consists of a stainless steel wire spiraling down. The wire is corroded where it is not submerged, so it has to be replaced occasionally. The connections to the anode and cathode are made outside the cell but do corrode from the gasses and electrolyte mist. This is partially prevented by leading the gasses away from the connections with a vent tube, as shown in the picture. Covering the connections with hot melt glue also helps, but the heat generated in a faulty connection may cause the hotmelt to melt. The temperature is controlled by placing the cell in a water bath, which acts as a heat sink. If the temperature is too low, styrofoam isolation is provided. The cell is operated outside, causing the temperature to fluctuate between day and night. The pH is checked about twice a day and adjusted if necessary with hydrochloric acid. The power source used is an old computer power supply. The output voltage can be regulated within certain limits and this is done to maintain a current of about 4 amperes. An other model computer power supply was used previously that did not allow control over the output voltage. Current adjustment was done by widening or narrowing the cathode spiral, effectively reducing or increasing the anode-cathode distance.

Theoretically, if 100% efficiency could be reached, the cell would have the capacity to convert approximately 35 grams of sodium chloride to 64 grams of sodium chlorate per day. Using a metathesis reaction with potassium chloride this would yield 74g of potassium chlorate. In practice the average yield is about 40 grams of potassium chlorate a day from which an efficiency of 55% can be calculated.

2.4 Cell volume

This is the main factor affecting a cells capacity, provided the power supply can provide the necessary current. As a rule of thumb no more than 2 amperes per 100 ml of electrolyte must be passed through a chlorate cell. Under more optimal conditions a higher amperage may be tolerable, still maintaining reasonable efficiency whereas in less optimal conditions 2 amperes may be too high and a lot of chlorine will be lost, leading to lower efficiency and rising pH. A current of 2 amperes will convert approximately 0.73 gram of sodium chloride to 1.32g of sodium chlorate per hour (assuming 100% efficiency). After extracting, metathesis reactions and recrystallising that will yield 1.53 g potassium chlorate. So, for example, to produce 100 grams of potassium chlorate a day at least 100 grams / 1.53 grams / 24 hours * 100 ml = 272 ml of electrolyte are required. To maintain that rate of conversion the cell will then require 272 ml / 100 ml * 2 amperes = 5.44 amperes. If a cell is less efficient than 100%, which every cell is, increase these figures proportionally (so at 50% efficiency: 100% / 50 % * 272 ml = 544 ml of electrolyte, consuming 10.88 amperes of current to maintain the same rate of production). The example cell described above contains 200 ml of electrolyte. Thus, it should be operated at a current of 4 amperes, and the maximum daily yield is 100/272 * 200 = 74 g of potassium

chlorate after processing the electrolyte. These figures were also mentioned in the cell description without explanation.

2.5 Cell body materials

One of the main problems in chlorate cells is the corrosiveness of the electrolyte. Only very few materials do not corrode when in contact with the electrolyte or its fumes. Most metals corrode, many plastics will and even glass does under some circumstances.

Some metals, such as steel, can be used if they are protected from corrosion in some way. For that purpose it can be coated with a resistant material such as teflon or some types of rubber, or it can be 'cathodically protected'. This means the cell walls are used as a cathode. The negative potential prevents the steel from being oxidised if the current density (current per unit of surface area) on the steel is high enough.

Some metals, particularly titanium, zirconium, tantalum and niobium, form a protective film when they are in contact with the electrolyte. This prevents them from further corrosion, and they therefore find extensive use in industrial setups (particularly titanium). For amateurs the difficulties in working with these metals and their high price restricts their use somewhat. In small scale setups glass and plastics such as PVC are more easily available, easier to work with and much cheaper.

The table below gives some idea of how well a number of materials stand up to corrosion. The column 'protected' lists how well metals resist corrosion when cathodically protected. The column 'unprotected' lists materials used as is.

<table>
<thead>
<tr>
<th>material</th>
<th>corrosion resistance when unprotected</th>
<th>corrosion resistance when cathodically protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>--</td>
<td>+</td>
</tr>
<tr>
<td>Stainless steel</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Titanium</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Copper</td>
<td>--</td>
<td>++</td>
</tr>
<tr>
<td>Brass</td>
<td>--</td>
<td>+</td>
</tr>
<tr>
<td>Tantalum</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Platinum</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Aluminum</td>
<td>--</td>
<td>+-</td>
</tr>
<tr>
<td>PET</td>
<td>++</td>
<td>X</td>
</tr>
<tr>
<td>Poly ethylene</td>
<td>+</td>
<td>X</td>
</tr>
<tr>
<td>Poly propylene</td>
<td>+</td>
<td>X</td>
</tr>
<tr>
<td>PVC</td>
<td>++</td>
<td>X</td>
</tr>
<tr>
<td>Rubber</td>
<td>+-</td>
<td>X</td>
</tr>
<tr>
<td>Hot melt glue</td>
<td>+-</td>
<td>X</td>
</tr>
</tbody>
</table>
### 2.6 Electrode materials

The range of suitable electrode materials is very limited. Especially the anode material is critical. The positive charge on the anode promotes oxidation and the evolving oxygen attacks many anode materials. Several anode materials have been considered over the years. Today's main options are listed below along with a short description.

#### Anode materials

- **Graphite**: graphite is cheap and easy to obtain. It does however corrode at a comparatively fast rate. This makes it necessary to replace the anodes every so often and to filter the electrolyte before further processing which can be difficult and laborious due to the small size of the carbon particles. Graphite is not suitable for making perchlorates. When the chloride concentration of the electrolyte drops to the point where perchlorate formation begins (about 10% w/v), the graphite begins to oxidise at a great rate, yielding no or only traces of perchlorate. Cells operating with graphite anodes must also be maintained at a relative low temperature to limit anode erosion, which translates to a lower cell capacity. Graphite rods can be found in old manganese dioxide-zinc batteries or in welding shops where they are sold as 'gouging rods'. They can be treated with linseed oil to reduce corrosion. A practical method for the home experimenter has been devised by Rich Weaver, and is well described on Mike Brown's page. Old battery electrodes do not need to be treated with linseed oil.

- **Platinum**: The obvious disadvantage of platinum is its high price. However, platinum anodes corrode only at a very slow rate and are suitable for perchlorate production. They therefore provide an almost ideal anode material. High efficiency can be reached with platinum and processing of the electrolyte is greatly simplified.

- **Lead dioxide**: Lead dioxide provides an economical alternative to platinum. Lead dioxide anodes can be made at home. This takes some work and effort, but the anodes are cheap, fairly resistant to corrosion even at higher temperatures and are suitable for perchlorate production. More information on [lead dioxide electrodes](http://huizen.dds.nl/~wfvisser/EN/chlorate_EN.html) is given elsewhere on this homepage.

- **Manganese dioxide**: Another oxide that is conductive and resistant to oxidation. It is made by
thermal decomposition of manganese nitrate pasted onto a substrate. This type of anode seems quite promising for amateur pyro use. For more information, the user is referenced to patents in the literature list below. If anyone has experiences with these anodes and their preparation I'd be most interested to hear about them.

**DSA**: DSA stands for Dimensionally Stable Anode. This is the common term used to refer to anodes consisting of a layer of noble metal oxides (usually RuO₂ and TiO₂) coated onto a substrate, usually titanium. This type of anode is finding increased use in industrial cells because of its comparatively low cost when compared to platinum and its resistance to corrosion. Some of the chemicals required to manufacture these anodes (particularly RuCl₃ and tetra-butyl titanate, Ti(OBu)₄) are expensive and perhaps difficult to handle safely. However, if the chemicals can be obtained and suitable equipment is available, the procedure to make the anode seems fairly straightforward and may be an option. For the preparation of these, the reader is referenced to the literature. Again, I'd be most interested in anyones experiences with this type of anode.

**Magnetite**: This has found use in industry in the past, but is rarely used nowadays. It corrodes, but not very quickly and it can be used for perchlorate manufacture. The anodes are made by melting and casting FeO.Fe₂O₃ into the required anode shapes. I have little literature available on this material, so it is not further discussed here.

**Cathode materials**

Both stainless and mild steel find widespread use as cathode materials. Brass and copper may also be used. Each of these metals is protected to a certain extent by the negative charge present on the cathode as long as they are submerged and the current per surface area is high enough. Unsubmerged parts of the cathode corrode at a high rate however due to the action of evolving gasses and droplets of cell electrolyte.

It seems that under some conditions the chromium in stainless steel can dissolve, even though the cathode does not seem to corrode. A yellow electrolyte is the result from which barium chromate can be precipitated even if no chromate was added, which will be described later (see [processing the electrolyte](http://huizen.dds.nl/~wfvisser/EN/chlorate_EN.html)). The presence of chromates could lower the efficiency of cells employing lead dioxide anodes.

Finally, contamination of the final product with copper (from brass or copper erosion products) can be dangerous when the product is to be used in pyrotechnic purposes. Although this is unlikely to be a great problem since the impurities are usually removed easily and completely by filtration (as will be described later) it is good to be aware of the possibility.

### 2.7 pH and temperature control

Although not essential for chlorate manufacture, controlling the temperature and pH will increase cell efficiency and therefore the capacity of a cell. Temperature control can be anything from a sophisticated thermostat and heating element (or a cooling element) to simple...
insulation around the cell or a cold water bath. As mentioned earlier, part of the electric energy is lost as heat in the cell. Small cells operating at high currents can sometimes reach temperatures of 80 to 90 deg C. Though high temperatures will improve efficiency, temperatures as high as that will also increase anode corrosion and it is therefore usually considered better to maintain a temperature in the range 60 to 80 deg C to get the best of both worlds. Graphite anodes tend to erode faster than other types though, especially at higher temperatures, and cells employing these are therefore usually operated at 40 deg C to limit anode erosion.

Like temperature control, pH control is not essential for chlorate manufacture. Efficiency is improved greatly however if the pH is kept within the range 5.5 - 6.5 (slightly acidic) as explained in the theory section. Graphite anodes also tend to erode faster at high pH, so maintaining the pH will extend graphite anode life. In commercial setups pH control is done manually by periodic additions of hydrochloric acid. Automated pH control seems to be difficult and expensive to realise. If anyone devices a practical method of doing this, I'd be interested to hear about it.

2.8 Preparing the electrolyte

When just starting a first batch of chlorate a fresh electrolyte has to be prepared. When the cell has been operated before, the electrolyte from the previous cell is available to prepare the electrolyte for a new batch. Also, the material left behind from the extraction and purification steps can be added to the next cell as it may contain some residual chlorate. That way no product left in the solution after processing is lost.

As mentioned, it is common to use sodium chloride to prepare sodium chlorate first, which is then converted to potassium or barium chlorate later. Even though both compounds may be prepared directly from potassium or barium chloride, using sodium chloride as a starting material has advantages. Mainly, it makes processing of the electrolyte much easier since sodium chlorate is very soluble. It is therefore easily separated from insoluble impurities which are almost always present. It will be assumed that sodium chloride is used. If for some reason the use of other compounds is desired, the procedure and amounts may need to be adjusted.

Preparing fresh electrolyte

1. Prepare a saturated solution of sodium chloride. Take about 40 grams for every 100 ml of solution and bring the solution to a boil. Then allow to cool to room temperature again. Some sodium chloride will crystallise as the solution cools. The solution is then filtered to obtain a clear saturated solution.

2. Optionally, 2 to 4 g/l of potassium dichromate, potassium chromate, sodium chromate or sodium dichromate may be added to improve efficiency. These compounds are suspected carcinogens, so if you choose to add any, know the hazards involved and act accordingly. If lead dioxide anodes are used, do not add potassium dichromate as it will only reduce efficiency. Instead, 2 to 4 g/l of sodium or potassium fluoride may be used. Although not carcinogenic, the fluorides are nasty compounds as well and should be handled properly.
3. Finally, the pH of the solution can be adjusted. A pH of around 6 is optimal, but anything between 5.5 and 6.5 is reasonable. The pH can be increased by addition of sodium hydroxide solution and it can be decreased by adding hydrochloric acid. Do not use too concentrated solutions for adjusting the pH. A concentration of 2% (w/v) for both solutions is convenient to work with.

Recycling old electrolyte

When electrolyte from a previous batch of chlorate is available the following steps can be used to recycle the electrolyte.

1. If the electrolyte is not clear but has solid particles in it, filter to remove these. See the section on filtering below.

2. Dissolve any impure chlorate from the purification and extraction steps.

3. Now, re-saturate the solution with sodium chloride. The procedure mentioned above in step 1 of 'preparing a fresh electrolyte' may be used.

4. The chromate, dichromate or fluoride if added is still present so does not need to be replenished. The pH should be readjusted, like in step 3 for preparing a fresh solution above.

2.9 Operating the cell

Voltage and current

As explained in the theory section the voltage over the cell may vary. The current should be kept more or less constant at a value determined by the cell design. As a rule of thumb, supply 2 amperes of current per 100 ml of electrolyte. If graphite anodes are used it is better to supply less current since that will increase anode life (30 mA per square centimere of anode surface area is typical). A constant current supply is of course the most convenient to use for regulating current, but manually adjusting the voltage from time to time also works well. The current usually only changes very gradually, and the precise value is not very critical. In any case, measure the current at regular intervals and record them. That information is required to determine when a batch is complete, as described below in the paragraph 'running times'.

Maintaining optimal conditions

As explained, the pH of the electrolyte will tend to rise. Also, some of the water will evaporate and some will be consumed in the reaction. The temperature may also vary with ambient temperatures. For good efficiency these variables must be kept within certain limits.

Every once in a while, make up for evaporated and consumed water. This can be done with water, but it is better to use a saturated sodium or potassium chloride solution. The
chloride concentration will be kept at a higher level which improves efficiency. It will also prevent excessive formation of perchlorate, and in graphite anode based cells it reduces anode wear.

The pH will rise during operation of the cell, and it is best to lower the pH regularly to a value of about 6. A high pH value is best corrected by adding hydrochloric acid occasionally. If too much HCl is added, it may be corrected with sodium hydroxide solution. The pH is self correcting to a certain extend as well, since at very low pH the cell will produce more chlorine gas. This will then escape, raising the pH again. Measuring the pH of the solution can be done with common pH paper. However, if the paper is simply dipped directly into the electrolyte the hypochlorite present will usually bleach the paper making a measurement impossible. This problem can be overcome by boiling a sample of the solution for 5 minutes and measuring the pH of that. The boiling destroys the hypochlorite.

The temperature will usually reach a more or less constant value quickly. If the cell is placed outside, the temperature may vary between night and day and between seasons of course, so then some sort of control may be necessary to maintain the optimum. Usually, cooling is necessary but it will depend on the specific cell design as explained in the theory section.

Running times

The time required to convert a certain amount of chloride to chlorate depends on the current and the efficiency. The latter can vary dramatically from cell to cell and it is therefore not possible to state precise running times. It is however possible to calculate the required running times for a hypothetical cell operating with 100% current efficiency. The calculation will show that the conversion of one mole of chloride to chlorate requires 160.8 amperage hours. So, for example, a cell containing 100 grams of sodium chloride will require 100/58.6 * 160.8 = 274.4 Ah if it operates at 100% efficiency. For a current efficiency other than 100%, increase the running times in proportion (to convert 100g of NaCl with 80% current efficiency one needs 274.4/80*100 = 343 Ah). So, if a current of 3 amperes flows through the cell, it requires 274.4 / 3 = 91.47 hours (91 hours, 28 minutes) to finish.

2.10 Processing the electrolyte

When done, the product must be extracted from the electrolyte and the electrolyte can be recycled for the next batch (see preparing the electrolyte).

Filtering

The electrolyte usually contains suspended solid particles, even though they are not always visible. Suspended particles can be detected with the use of the Tyndall effect. Shine a bright flashlight through the side of a glass container containing the solution. If no suspended particles are present the light beam cannot be seen going through the solution. If suspended particles are present they will scatter the light and make the beam visible.

Usually, the impurities consist of erosion products of the anodes, the cell walls, and the unsubmerged parts of the cathodes. These particles may be very small and are not always
easily removed with common filtering paper. Filtering through a layer of diatomaceous earth (sold in shops for aquarium supplies) in a filter or on a piece of cloth sometimes solves the problem. Another great idea for a filter comes from E.S. However, just filtering will not always remove all solid impurities. A common impurity that is hard to remove is suspended iron hydroxide, originating from corrosion of (stainless) steel cathodes. The fluffy, voluminous form of the material often gives it a white or yellowish foggy appearance. This is next to impossible to remove unless some sodium hydroxide or pool coagulant is added first. This causes the iron hydroxide particles to coagulate, making them easy to remove by filtration. Another possibility is to add hydrochloric acid to lower the pH to between 2 and 3. This will dissolve the iron hydroxide. If sodium hydroxide is then added to raise the pH to above 7 again, the iron hydroxide is precipitated in a more dense form which is easily removed by filtration, even with common filter paper.

In this step, the advantages of using sodium chloride will become evident. When potassium chloride is used instead potassium chlorate crystallises during operation of the cell due to its relatively low solubility. To separate the potassium chlorate from insoluble impurities the electrolyte has to be filtered hot. The solution usually takes quite a long time to pass through the filter and if it cools during this time, potassium chlorate will crystallise and block the filter. Alternative methods have been developed to separate potassium chlorate from insoluble impurities. For example, the solution may be boiled and sufficient water added to dissolve all potassium chlorate. If the solution is then allowed to cool slowly, crystals of potassium chlorate will form on the suspended insoluble impurites. These will sink to the bottom, usually leaving a clear solution. The clear solution is then carefully decanted and allowed to cool further . This method will not remove the insoluble purities as well as filtering will but it is much less laborous.

**Destruction of hypochlorite**

Next, the electrolyte is boiled to decompose remaining hypochlorite. 15 minutes of vigorous boiling is sufficient. After that, the pH of the solution is checked and it is made slightly alcaline by adding sodium hydroxide solution. Bring the pH to between 8 and 9.

**Metathesis reaction**

At this point, a clear solution of sodium chlorate (with residual chloride) has been obtained. This can be used either to prepare potassium or barium chlorate (or other chlorates which are not further elaborated upon here), or it can be used to prepare perchlorates, described elsewhere.

Potassium chlorate is by far the most commonly used chlorate in pyrotechnics. For practical purposes, the preparation of this compound is discussed here. For the preparation of barium chlorate the amounts will have to be adjusted.

1. Weigh out either 127g of potassium chloride or 355g barium chloride for every 100 g of sodium chloride that was started with, depending on wheter you want to prepare potassium or barium chlorate. Dissolve this in as little water as possible (dissolve in minimum amount of boiling hot water, add a bit more water and allow to cool. Nothing should precipitate. If it does, add some more water and heat again)
2. Add this solution to the electrolyte. A white precipitate of potassium or barium chlorate should form.

3. Bring the solution to a boil. Add 20 ml amounts of water to the solution in 5 minute intervals until all chlorate has dissolved. If all chlorate dissolves upon heating without the addition of extra water, allow the water to evaporate until a thin crust of chlorate forms on the surface (indicating that the saturation point has been reached). Then add 20 ml of water and boil for a minute to redissolve the crust.

4. Allow the solution to cool to room temperature. Potassium or barium chlorate will crystallise. If it has cooled to room temperature, cool further to 0 deg C.

5. Filter to obtain the crude chlorate crystals. Rinse them thoroughly with ice-cold water. The filtrate can be saved to prepare the next electrolyte, as is described in the section on recycling electrolyte.

### 2.11 Purifying the product

The crude product can be purified by recrystallisation. The low solubility of potassium chlorate makes this method very convenient to use and will greatly improve the purity with a relatively small loss of product. Barium chlorate is somewhat more soluble and to prevent losses it is a good idea to use the impure barium chlorate ‘waste’ from this procedure in the electrolyte of a new cell. Some treatment is necessary, which was described earlier. If a single recrystallisation step does not yield a sufficiently pure product, the method can be repeated to further increase the purity. Usually one or two recrystallisations will yield a product that does not impart the characteristic yellow color of sodium impurities to a flame.

1. Place the crude product in a pan and add 100 ml of water for every 35g of crude potassium chlorate or 50g of barium chlorate. Bring this to a boil.

2. Add 20 ml amounts of water to the boiling solution until all the chlorate has dissolved.

3. Check the pH of the boiling solution. It should be neutral or slightly alkaline. If it is acidic, add potassium hydroxide solution until it is slightly alkaline (pH 7.8) again. If this is not done, traces of acid may be included in the product making it very dangerous to use in pyrotechnic compositions.

4. Allow the solution to cool to room temperature. The chlorate will crystallise.

5. Filter and rinse the crystals in the filter well with ice cold water. The filtrate may be used to prepare the electrolyte for a new cell, as was described in the section on recycling old electrolyte.

6. The crystals may be dried in an oven at 100 deg C.
Thermal decomposition of hypochlorites

This is an alternative method of chlorate manufacture. It is more laborous than the electrolytic method, and can only be used for small batches at a time. The starting materials are quite easily available however as bleach and pool chlorinating agents and it only requires the use of simple tools.

3.1 Starting materials

Possible starting materials are sodium hypochlorite and calcium hypochlorite. The former is available in solution as bleach and antifungal spray for bathrooms. Calcium hypochlorite finds use as a chlorinating agent for pools. However, different varieties exist. Carefully read the package to make sure you have the right material. It usually states a '85% available chlorine' content for calcium hypochlorite. A higher available chlorine content may mean it is something else, most likely trichlorohydrocyanuric acid.

3.2 Method

Depending on the starting material, sodium or calcium hypochlorite, a different procedure must be followed. Each is described separately below.

Procedure when using sodium hypochlorite

It is assumed bleach will be used, which is usually a 4% solution of sodium hypochlorite in water. If a less or more concentrated solution is used, adjust the amounts accordingly.

1. Take 1 liter of bleach, and place this in heat resistant glass or stainless steel container. Bring it to a boil.

2. Boil the solution until only about 140 ml of solution is left. The exact volume is not critical, a deviation of 10 to 20 ml is acceptable.

3. Allow the solution to cool. If crystals form upon cooling, filter the solution after it has completely cooled. The crystals are sodium chloride and can be discarded.

4. In a separate container, prepare a solution of potassium chloride. Dissolve 28 grams of potassium chloride in the smallest volume of water possible (about 80 ml). This can be done by dissolving the potassium chloride in about 90 ml of boiling water, and allowing it to cool. If crystals form, add some more water, boil again to dissolve the potassium chloride, and allow to cool again. If crystals form, repeat. If not, the solution is ready to use.

5. Mix the boiled bleach solution with the potassium chloride solution. A white precipitate should form. This is potassium chlorate.

6. Bring the solution to a boil and add water until all potassium chlorate has dissolved.
7. Allow the solution to cool slowly. Crystals of potassium chlorate will form. Cool the solution to 0 deg C.

8. Filter to obtain the raw potassium chlorate. Rinse the crystals in the filter with ice-cold water. The product can be further purified as described below.

**Procedure when using calcium hypochlorite**

warning: On one occasion an small explosion occured when I was doing this preparation. I am not sure exactly what caused the explosion. It seems to have been a steam explosion. I was also not sure wheter I was using calcium hypochlorite or trichlorohydrocyanuric acid, another common pool chlorinating agent. It seems to be very uncommon that explosions happen and they can probably be prevented by vigorous stirring, but I thought everyone attempting this method should know so proper precautions can be taken. The procedure below has been optimised to reduce the chances of an explosion happening.

1. Place 250 ml of water in a heat resistant glass or stainless steel container, large enough to hold twice that volume.

2. Bring the water to a boil.

3. To the boiling water, add 125 gram of calcium hypochlorite in 10 gram portions. The calcium hypochlorite usually comes in tablets, which need to be crushed first. Stir vigorously during this step, occasionally scraping over the bottom to prevent the formation of a cake of calcium chloride. The solution will foam a lot. If too much foam is developed, do not add any more calcium hypochlorite and boil untill the foam subsides. Then continue adding calcium hypochlorite.

4. When all calcium hypochlorite has been added, continue boiling untill no more foaming is observed. Stir continuously.

5. Allow the solution to cool down, and filter to remove the precipitated calcium chloride.

6. In a separate container, dissolve 68 grams of potassium chloride in the smallest volume of water possible (approximately 195 ml). This can be done by dissolving the potassium chloride in about 200 ml of water, and allowing it to cool. If crystals form, add some more water, boil again to dissolve the potassium chloride, and allow to cool again. If crystals form, repeat. If not, the solution is ready to use.

7. Mix this solution with the boiled calcium hypochlorite solution. A white precipitate of potassium chlorate should form.

8. Bring the solution to a boil and add water untill all potassium chlorate has dissolved.

9. Allow the solution to cool slowly. Crystals of potassium chlorate will form. Cool to 0 deg C.
10. Filter to obtain the raw potassium chlorate. Rinse the crystals in the filter with ice-cold water. The product can be further purified as described below.

### 3.3 Purifying the product

The product can be purified by recrystallisation, just like the product of the electrolytic procedure. For convenience, the same procedure is given again here:

1. Place the crude product in a pan and add 100 ml of water for every 20 g of crude product. Bring this to a boil.

2. Add 20 ml amounts of water to the boiling solution until all the potassium chlorate has dissolved.

3. Check the pH of the boiling solution. It should be neutral or slightly alkaline. If it is acidic, add potassium hydroxide solution until it is slightly alkaline (pH 7.8) again. If this is not done, traces of acid may be included in the product making it very dangerous to use in pyrotechnic compositions.

4. Allow the solution to cool to room temperature. Potassium chlorate will crystallise.

5. Filter and rinse the crystals well with ice cold water. The filtrate may be discarded or concentrated by evaporation and the residue added to the electrolyte for a next batch.

6. The crystals may be dried in an oven at 100 deg C.

### Chapter 4: Literature

The amount of literature available is overwhelming. A short list of interesting reading material follows.


2. F. Foerster and E. Muller, Z. Elektrochem, 8, 515, 633, 923 (1902); 9, 171 (1903); 10, 781 (1904).

3. [Webpage of Mike Brown](http://huizen.dds.nl/~wfvisser/EN/chlorate_EN.html)

   *This list is under construction*
Lead dioxide anodes provide an economic alternative to platinum for the electrolytic production of perchlorates (or chlorates). They corrode little upon use and are therefore convenient. The electrolyte remains clear of suspended anode erosion particles which greatly simplifies processing of the cell electrolyte.

Over the years several methods of preparing lead dioxide anodes have been invented. Of these, several can be used by amateurs to manufacture their own. Below are described several different types and methods.

The methods

**Graphite substrate lead dioxide anodes** (GSLD anodes) are prepared by electrolytically coating a graphite with a layer of lead dioxide. The difficulty with this process is that the coating must be pitless and very well adhering. If this is not the case the electrolyte will be able to attack the graphite which will eventually destroy the anode. Advantages of this type of anodes are that the substrate is cheap and easy to obtain and provides a convenient and reliable electrical connection to the lead dioxide.

**Ceramic substrate lead dioxide anodes** are not required to have a perfect coating. The inert nature of the substrate makes these anodes easier to make and use. However, a suitable ceramic substrate is less easy to obtain than graphite and will not provide an electrical connection.

**Substrate-less lead dioxide anodes**. Lead dioxide can be used without any substrate, but it is very brittle and fragile and must be used in relatively thick sheets to be mechanically strong. These are not easy to make, nor is it easy to provide a reliable electrical connection to them. Advantage is the absence of a substrate that can corrode, such as graphite.

Erosion

Lead dioxide anodes erode little. Good quality anodes can last almost indefinitely. Erosion on the anodes is visible as spots where the usually smooth shiny black coating of lead dioxide turns brown and powdery.

Use of GSLD anodes

Lead dioxide anodes can be used in chlorate and perchlorate cells much like platinum anodes with one difference: dichromates or chromates should not be used in GSLD cells. It would drastically reduce the current efficiency even in small concentrations. The current efficiency of a GSLD based perchlorate cell can be improved (by about 50%) by adding 2g/l sodium fluoride or hydrogen fluoride (both nasty chemicals).
Lead toxicity

Lead compounds are very toxic, especially soluble lead compounds such as the lead nitrate used in this preparation. It damages the nervous system and accumulates in the body. Make sure you are aware of all the dangers involved when working with lead and its compounds if you are handling them.

Further reading

The following articles have more information on lead dioxide anodes and their uses:


2. J.P. Carr, N.A. Hampson, "The Lead Dioxide Electrode", Chem. Reviews, 72 (1972), 679


Graphite substrate lead dioxide anodes

Graphite substrate lead dioxide anodes (GSLD) are convenient to use since the graphite provides a reliable electrical connection to the lead dioxide. However, the preparation of this type of anode is less easy than other types since the lead dioxide layer must be smooth and well adhering. If the electrolyte is able to get under the lead dioxide layer it will attack the graphite substrate, which will render the electrode useless.

GSLD anodes are prepared by electrolysing a suitable plating bath using a graphite anode and a copper cathode. To prevent pitting, two methods may be used. Adding small amounts of certain non-ionic surfactants will increase the smoothness of the coating. This method can cause problems with frothing however and the plating bath must be regenerated (old surfactant removed and fresh surfactant added) regularly. Another option is to spin the anode during plating. The centrifugal force will remove adhering bubbles from the anode, improving the coating. This requires a special setup but regeneration of the electrolyte is not necessary and it produce good results.

The plating solution

The plating solution consists of 250 g/l lead nitrate and 50 g/l copper(II)nitrate. Use distilled water to make the solution and acidify it to pH=1 with nitric acid. If you choose to use a surfactant, add 2 to 4 g/l of a suitable surfactant. CTAB was found to work well, Teepol or Triton X-100 will not work. If anyone has experiences with surfactants other than these (or found other results), I'd be most interested to hear about it.

The spinning setup

Rotating the anode during plating is another method to prevent pitting. The following setup works well: A motor is attached to a short metal tube. The graphite anode slides partially into this tube for 1 cm (should fit tightly) and the connection is sealed with hot melt glue. Experimenting with different rotation speeds shows that about 1000 rpm is minimal to prevent pitting for anodes of the dimensions given above. The motor of an old fan usually suits the task well and can sometimes be found for little money at a scrap yard. The anode of a power supply is connected to the metal tube by means of a copper sliding contact.
The graphite substrate

Small graphite rods can be obtained from old 1.5V batteries. The largest type of battery employs rods of 8 cm length, and 0.8 cm diameter. The graphite rods must be cleaned: first with hot water and then degreased with white gas. After degreasing the surface of the anodes should not be touched anymore. The anodes are then attached to the tube (as described above). Cover the lower 1 or 2 cm of the metal tube with hot melt glue to prevent erosion of the metal.

Substrate treatment

The graphite rod must be treated to make the PbO2 coating adhere well. To do this electrolyse a 10% NaOH solution with it for 30 minutes. Use the graphite as anode and a copper or stainless steel cathode. Voltage should be 5...6V and current density 0.05 ... 0.1 A/cm2. The anode should erode somewhat from this, turning the previously clear solution greyish. Next, immerse the anode in 10% nitric acid solution for 10 minutes. To rinse it well provide stirring or rotate it. Finally, rinse the anode twice with distilled water. Do this thoroughly. The graphite is now ready for its PbO2 coating.

The plating

The plating is done by electrolysing the plating solution with the graphite rod as anode and a copper cathode. The coating is improved a lot if the solution is warmed up to about 55 deg C. However, take care not to heat the solution much above 60 deg C because this can ruin the coating. Maintain a current density of about 0.05 A / cm2. Although many articles state that the pH should be kept constant by addition of a mixture of CuCO3 and PbCO3 (1:1), I found that if this is done at all it should be done outside the cell to prevent CO2 bubbles forming on the anode (this causes pitting). Without carbonate addition a fine coating could be made so I suspect this is only important when plating for extended periods of time. Stop when the coating is 0.8 ... 1.0 mm thick and rinse it with distilled water.

If everything went alright you should now have a shiny black coating on the graphite. If you weigh your anode before and after plating and you use the 1.5V battery anodes the weight increase should be about 10 grams. Ideally it would be perfectly smooth, but I only get a perfectly smooth coating in 50% of the cases. If your GSLD anode happens to have a few small pits, don’t worry. Cover each pit with a drop of hot melt glue and your anode is perfectly usable. Check the hot melt glue every once in a while and replace if necessary. I do this after every batch of perchlorate but most of the time it isn’t necessary.

Use of GSLD anodes

The anode can be used in chlorate and perchlorate cells like a platinum anode with one difference: dichromates or chromates should not be used in GSLD cells. It would drastically reduce the current efficiency even in small concentrations. The current efficiency of a GSLD
Graphite substrate lead dioxide anodes

Based perchlorate cell can be improved (by about 50%) by adding 2g/l sodium fluoride or hydrogen fluoride (both nasty chemicals).
Ceramic substrate lead dioxide anodes

This page is under construction, sorry. You can find more info on this method however in US Patent 4008144, which can be obtained from http://www.patents.ibm.com.

Back to main page
Substrate-less lead dioxide anodes

This page is under construction, sorry. More info on this type of anode can be found in some of the references on the main PbO2 page.

Back to main page
Chapter 1: Introduction

Industrially, perchlorates are exclusively prepared by the electrochemical method. In the past, thermal decomposition of chlorate has been used but since this process is very inefficient it has been abandoned long ago. Chemical oxidation of chlorates is currently not very economical either, but it may become an option in the future. For amateur pyros, each of these methods may be used as we need not be concerned with the economy of the process as much as commercial operations do. The electrochemical method is convenient to use if you have a chlorate cell with the right anodes already, since then making perchlorates is simply a matter of operating the cell for a bit longer. If you can get chlorates in quantity for cheap, for example as a herbicide, the thermal decomposition method is an option. The method is quick, and requires no chemicals other than the chlorate starting material. Perchlorates can also be prepared by chemical oxidation of chlorates. The required chemicals are relatively expensive, but the method is quick and simple.

Chapter 2: Electrolytic preparation

Chlorates can be oxidised in an electrochemical cell to yield perchlorates. The preferred starting material for this method is sodium chlorate, since it is very soluble. Potassium chlorate is seldom used due to its low solubility, and ammonium chlorate should never be used since it leads to the formation of sensitive and explosive NCl\(_3\) in the cell. Sodium perchlorate is conveniently converted in high yield to a number of other perchlorates (such as potassium and ammonium perchlorate) by double decomposition (metathesis) reactions. It is assumed from here on that sodium chlorate is used as starting material.
Cell construction

Electrochemical cells for perchlorate synthesis do not differ much from chlorate cells. The most important difference lies in the anode material. Not all anode materials suitable for chlorate synthesis can also be used for perchlorate synthesis. Most cell body materials used in chlorate cells may also be used in perchlorate cells. The effect of temperature and pH deviating from the optimal values is of much less importance in perchlorate cells. Finally, the voltage at which perchlorate cells operate is somewhat higher because the potential at which the conversion reactions take place is higher. The general structure of both cell types is the same: two working electrodes, and no diaphragm.

Electrode materials

Like in chlorate cells, stainless steel is a suitable cathode material. Mild steel may also be used. While copper and brass will also work, they may cause problems with copper contamination when they erode.

Anode materials for perchlorate cells should have a high oxygen overpotential. What exactly that means is not further discussed here; it suffices to say that if the oxygen overpotential at a certain anode material is not high enough oxygen will be evolved instead of chlorate oxidised to perchlorate. No perchlorate will be formed, and the anode material is usually attacked comparatively quickly. This holds also for chlorate cells, but the problem is less severe there since lower potentials are involved. Anode materials suitable for perchlorate synthesis are listed below. These are also described in the chlorate synthesis section but are repeated here for convenience.

**Platinum:** The obvious disadvantage of platinum is its high price. However, it corrodes only at a very slow rate and therefore provides an almost ideal anode material. High efficiency can be reached with platinum and processing of the electrolyte is greatly simplified due to the absence of insoluble anode erosion products.

**Lead dioxide:** Lead dioxide provides an economical alternative to platinum. Efficiency of lead dioxide anode based cells is usually slightly lower than that of platinum based cells, but the difference is small. Lead dioxide anodes are not easily bought and must be made. This takes some work and effort, but the anodes are cheap, fairly resistant to corrosion even at higher temperatures. More information on lead dioxide anodes of several types is given elsewhere on this homepage.

**DSA:** DSA stands for Dimensionally Stable Anode. This is the common term used to refer to anodes consisting of a layer of noble metal oxides (usually RuO$_2$ and TiO$_2$) coated onto a substrate, usually titanium. This type of anode is finding increased use in industrial cells because of its comparatively low cost when compared to platinum and its resistance to corrosion. The chemicals required to manufacture these anodes are expensive and difficult to handle. However, if the chemicals can be obtained and suitable equipment is available, the procedure to make the anode seems fairly straightforward and may be an option. For the
preparation of these, the reader is referenced to the literature. Again, I'd be most interested in anyone's experiences with this type of anode.

**Magnetite:** This material has found use in industry in the past, but is rarely used nowadays due to its relatively high corrosion rate and low efficiency for perchlorate manufacture. The anodes are made by melting and casting FeO.Fe$_2$O$_3$ into the required anode shapes. I have little literature available on this material, so it is not further discussed here.

### Preparing the electrolyte

Sodium perchlorate can be made directly from sodium chloride by electrolysis in which case no special electrolyte for the chlorate to perchlorate step has to be prepared. The preparation of a chloride electrolyte is described in the text on chlorates.

A cell can also be operated purely for the chlorate to perchlorate conversion. An electrolyte has to be prepared before each batch in this case. If the cell has been operated before, it is best to 'recycle' the old electrolyte and all the impure fractions obtained during extraction and purification of the product. That way no product is wasted. When the cell is operated for the first time, a fresh electrolyte has to be prepared which can be done as follows.

#### Preparing fresh electrolyte

1. Prepare a saturated solution of sodium chlorate. Take about 60 grams of sodium chlorate for every 100 ml of solution and bring the solution to a boil. Then allow to cool to room temperature again. Sodium chlorate will crystallise as the solution cools. The solution is then filtered to obtain a clear saturated solution.

2. Optionally, 2 to 4 g/l of potassium dichromate, potassium chromate, sodium chromate or sodium dichromate may be added to improve efficiency. These compounds are suspected carcinogens, so if you choose to add any, know the hazards involved and act accordingly. If lead dioxide anodes are used, do not add potassium dichromate as it will only reduce efficiency. Instead, 2 to 4 g/l of sodium or potassium fluoride may be used. Although not carcinogenic, the fluorides are nasty compounds as well and should be handled properly.

#### Recycling old electrolyte

1. If the electrolyte is not clear but contains suspended particles, remove these by filtration.

2. Dissolve any impure material left over from purification steps.

3. Re-saturate the solution with sodium chlorate, following the same procedure as described in step 1 of 'preparing a fresh electrolyte'.

4. Like described in step 2 of 'preparing a fresh electrolyte' you may now add dichromates,
Operating the cell

Perchlorate cells are operated at a higher voltage than chlorate cells and temperature and pH do not need to be controlled within strict limits for optimal efficiency. Other than that, operation is much like that of chlorate cells.

Like explained in the theory section on chlorate cells, the voltage over a cell may fluctuate if the current is kept constant. In typical chlorate cells this results in a cell voltage of 3 to 4 volts, whereas in perchlorate cells the voltage is higher, 5 to 7 volts usually. The current is kept constant at an acceptable level with respect to anode erosion. A maximum current per volume as exists in chlorate cells does not exist in perchlorate cells. The current could in theory be increased indefinately to increase the reaction rate, were it not that anode erosion increases with increasing current density (the current per unit of anode surface area). The current is therefore usually set by the surface area of the anode. As a rule of thumb maintain a current density of 200 mA/cm$^2$.

The influence of cell temperature is two-fold: anode erosion increases with increasing cell temperature and the cell voltage is reduced at higher temperatures. The former is obviously unwanted, while a lower cell voltage means energy is saved. In industry the temperature is ofcourse chosen to get the best of both worlds, depending on what is more expensive: energy or anodes. We need not be concerned with economy as industry does so the temperature does not matter a lot. Try to keep it between 40 and 80 deg C. When using lead dioxide anodes, it is probably best to prevent the temperature from going very high. It can make the lead dioxide crack.

Finally, some water should be added from time to time to make up for what has evaporated. Try to maintain a constant electrolyte volume.

Running times

The required time to operate a cell depends on the current. The higher the current, the less time needed. In fact, the current is a measure of the reaction rate. Therefore, the amount of electricity that went through a cell is calculated by multiplying the current going through the cell (in amperes) by the time it has been flowing (in hours). The resulting number is measured in amperage-hours (abbreviated as Ah). To convert 100 grams of sodium to sodium perchlorate 50 Ah are required if the cell operates at 100% efficiency. In real life a cell will never reach 100% efficiency, and more electricity is needed.

Example: A 200 ml cell contains initially about 100 grams of sodium chlorate (the solubility of NaClO$_3$ in water is about 50 g/100ml at room temperature). Per 100 grams, 50 Ah are needed. So, if a cell operates at a current of 2 amperes, it would take 50/2 = 25 hours to convert all chlorate to perchlorate in a cell operating at 100% efficiency. If the cell actually operates at 80% efficiency, 100/80 * 25 = 31.25 hours (or 31 hours, 15 minutes) are needed.

If perchlorate is prepared by continuing to run a chlorate cell after all chloride has been...
consumed, the total run time is of course the sum of the time required for the chloride to chlorate conversion and the chlorate to perchlorate conversion.

### Processing the electrolyte

When done, raw potassium perchlorate or ammonium perchlorate may be prepared from the electrolyte as follows:

#### Filtering

The first step is filtration. The electrolyte usually contains suspended solid particles. These consist of erosion products of the anodes, the cell walls, and the unsubmerged parts of the cathodes. These particles may be very small and are not always easily removed with common filtering paper. Filtering through a layer of diatomeous earth (sold in shops for aquarium supplies) in a filter or on a piece of cloth sometimes solves the problem. However, even that will not always remove all solid impurities. A common impurity that is hard to remove is suspended iron hydroxide, originating from corrosion of (stainless) steel cathodes. The fluffy, voluminous form of the material often gives it a white or yellowish foggy appearance. This is next to impossible to remove unless some sodium hydroxide or pool coagulant is added first. This causes the iron hydroxide particles to coagulate, making them easy to remove by filtration. Another possibility is to add hydrochloric acid to lower the pH to between 2 and 3. This will dissolve the iron hydroxide. If sodium hydroxide is then added to raise the pH to above 7 again, the iron hydroxide is precipitated in a more dense form which is easily removed by filtration, even with common filter paper.

#### Chromate and dichromate removal

If chromates or dichromates were used to increase the cells efficiency they should now be removed. Adding a solution of barium chloride to the electrolyte will precipitate any chromate or dichromate as the corresponding barium compounds. Add small amounts of a 10% barium chloride solution to the electrolyte. A yellow precipitate will form. If no more yellow precipitate is formed, filter to remove the barium compounds. A white (sometimes clearly crystalline) precipitate may form instead of a yellow precipitate. This is barium chlorate or perchlorate. If this happens, do not add any more barium chloride solution and filter to remove the precipitate.

#### Destruction of chlorate

The next step is the destruction of residual chlorate. Even when a cell is operated for many times the required running time, some chlorate is still present in the electrolyte. Since chlorates and perchlorates behave very differently in pyrotechnic compositions (see the safety page among others) chlorate contamination can be very dangerous. If the cell is not operated long enough to convert most of the chlorate to perchlorate the chlorate contamination may be very severe and it is unpractical and very inefficient to attempt to destroy it all. If this is the case I suggest this step is skipped, and the raw product is extracted. Ammonium perchlorate cannot be made this way, as it would result in the formation of the dangerously unstable explosive compound ammonium chlorate (also see the safety page). Conversion to potassium...
perchlorate may however be tried. This will of course afford a heavily chlorate contaminated batch of perchlorate, probably even something that can better be considered to be a chlorate/perchlorate mixture or perchlorate contaminated chlorate. This material could be used to an extremely limited extent in pyrotechnic compositions when it is treated as a chlorate, or, a better option, it can be used as a starting material for the thermal decomposition or chemical oxidation preparations of potassium perchlorate described later.

Residual chlorate is usually destroyed by the action of reducing agents. Sodium sulfite is used for this purpose in industrial setups. Iron(II)sulfate is another option, and the chemical can be bought in some gardening supply shops as it is used to supply plants with iron. A third method destroys chlorates by the action of strong acids. The cell electrolyte is acidified with hydrochloric acid to a pH of 1 to 2, and the solution is boiled. Chlorates will decompose and yield a yellow gas, chlorine dioxide. The gas will partially dissolve in the solution, imparting a bright yellow color to it. In high concentrations chlorine dioxide is dangerously explosive and sensitive but if done using proper ventilation the small amounts evolved in this reaction are very unlikely to cause dangerous levels. The gas is however quite toxic and inhalation should be avoided at all times. Never do this step inside unless a well functioning fumehood can be used. After boiling for 15 minutes raise the pH to around 8 or 9 again using sodium hydroxide. This should afford a colorless solution. A qualitative test for chlorate should now be performed to make sure all chlorate has properly been destroyed. Such tests are described on the product analysis page.

If any other method is used to destroy residual chlorate the pH must always be adjusted afterwards to slightly above 7. Otherwise, traces of acid may be incorporated into the product in later steps which can make it very dangerous to use in pyrotechnic compositions.

Double decomposition

A decision will have to be made at this point whether the intended product is ammonium or potassium perchlorate. Other perchlorates can be made as well but are not discussed here as they find very little use in pyrotechnics.

If residual chlorate was not destroyed the choice is simple since ammonium perchlorate is not an option. Ammonium chlorate could be formed in the process which is, as mentioned several times already, a dangerously unstable explosive compound the formation of which should at all times be avoided (even in trace amounts). If chlorate was properly destroyed, and a qualitative test indicates so, ammonium perchlorate may be prepared. 1. If potassium perchlorate is the intended product, take 70 grams of potassium chloride for every 100 grams of sodium chlorate that was started with and dissolve this in the smallest volume of water possible. If instead ammonium perchlorate is required, take 50 grams of ammonium chloride and dissolve in the smallest volume of water possible.

2. Mix this solution of either potassium or ammonium chloride with the electrolyte. A white precipitate of the corresponding perchlorate should form.

3. Boil the solution and add small amounts of water until all the perchlorate has dissolved. Due to the low solubility of potassium perchlorate a large volume of water may be needed then. If a
sufficiently large container is not available the solution may be split up in several portions that are later recombined.

4. When all has dissolved, check the pH of the solution. It should be neutral or slightly alcaline (above 7). If it is not, add some dilute sodium hydroxide solution to increase the pH to between 7 and 8. When this value is overshot, hydrochloric acid may be used to lower the pH again.

5. Allow the solution to cool slowly to room temperature. The perchlorate will crystallise during this. Cool the solution further to 0 deg C, and filter. Rinse the crystals in the filter with some ice-cold water. This raw product may be further purified as described below.

Purification

The product can be purified by recrystallisation. This method is especially suitable for potassium perchlorate due to its low solubility. Little product will be lost, and the purity is greatly increased. Ammonium perchlorate suffers slightly worse losses when recrystallised, but still acceptable. The impure ammonium perchlorate should be discarded since recycling could result in NCl$_3$ formation in the cells. The losses occuring when potassium perchlorate is recrystallised are so slight recycling is hardly worth the effort (a liter of recrystallisation solution contains only a few grams of perchlorate). Recrystallising is done as follows:

1. Place the crude product in a pan and add 100 ml of water for every 20 g of raw potassium perchlorate, or 100 ml of water for every 50 gram of raw ammonium perchlorate. Bring this to a boil.

2. After it has boiled for a few minutes, add 10 ml amounts of water to the boiling solution in 5 minute intervals untill all the product has dissolved.

3. Check the pH of the boiling solution. It should be neutral or slightly alcaline. If it is acidic, add potassium hydroxide solution untill it is slightly alcaline (pH=7...8) again. If ammonium perchlorate is the intended product, use ammonia instead. If this is not done, traces of acid may be included in the final product making it very dangerous to use in pyrotechnic compositions.

4. Allow the solution to cool to room temperature. The purified product will crystalise.

5. Filter and rinse the crystals well with ice cold water. The filtrate should be discarded.

6. The crystals may be dried in an oven at 100 deg C.

Chapter 3: Preparation by thermal decomposition of chlorate

Chlorates are thermodynamically unstable. Over time they will decompose into a mixture of chlorides and perchlorates. In essence, the chlorate will undergo a redox reaction with itself (a
so-called auto-oxidation reaction). Due to the kinetic stability of chlorates however, the process is slow at room temperature. A well known example of the same phenomenon is diamond: Diamonds are unstable at common pressures and temperatures. They turn into graphite extremely slowly. If a diamond is heated, the process is sped up. Similarly, if chlorates are heated the reaction rate is increased enough for it to be used as reaction pathway in the preparation of perchlorates. When potassium chlorate is used, the resulting perchlorate is easily separated from the chloride by recrystallisation. There may be several other chlorates that this method can be used with, but potassium chlorate seems to be the most well investigated option. In any case, ammonium perchlorate cannot be prepared directly with this method due to the explosive and unstable nature of ammonium chlorate, as mentioned earlier. In the first large scale perchlorate plants this method was used to prepare potassium perchlorate. Ideally, this preparation is performed in an oven since it involves heating the chlorate for several hours. The chlorate used should be free of impurities that catalyse chlorate decomposition (such as most d-block metals). The following description assumes potassium chlorate will be used as a starting material.

1. Heat pure potassium chlorate to slightly over its melting point. A colorless clear liquid is obtained. Before heating make sure no organic material or other fuels are present in the chlorate or able to fall into the molten chlorate. This would result in a violent reaction. Do not overheat since this will decompose the chlorate, yielding chloride only.

2. Maintain this temperature for several hours. During this time the potassium chlorate will undergo the auto-oxidation reaction. Due to the higher melting point of potassium chloride and potassium perchlorate the melt will solidify slowly during this time. It becomes quite hard to judge the correct temperature as the melt solidifies, and if an oven is not used a thermometer is essential to judge the correct temperature. Too high a temperature will cause the perchlorate to decompose, a low temperature will result in incomplete conversion.

3. After the mixture has completely solidified, allow it to cool to room temperature. Test a sample of the cooled residue for chlorate, as described in the analysis page. If chlorate is present it needs to be destroyed before extraction of the perchlorate. Destruction of chlorate is described earlier in this text, in the section dealing with processing the electrolyte from the electrolytic preparation of perchlorates.

4. Recrystallise the residue, as described earlier. Two recrystallisation steps are sometimes needed to separate the potassium perchlorate completely from the chloride as there is quite a lot present.

Chapter 4: Preparation by chemical oxidation

A third method to convert chlorates to perchlorates is by chemical oxidation. A sufficiently strong oxidiser added to a chlorate can oxidise a chlorate to a perchlorate. Suitable oxidisers are persulfates and lead dioxide in concentrated sulfuric acid. Hydrogen peroxide does not seem to work. I must admit my experience with this method is limited and I have not been able
to obtain much literature about it. It is mentioned in literature however, and it is definitely a possible method that can be used with good results. If anyone has some experience with it, I would be most interested to hear about it. The experiments I have conducted involved sodium persulfate as the oxidiser. I will give an account of the general method I used, the ideas behind it and the results obtained with it. Anyone with comments, results, ideas, anything is very welcome to comment on it. I can currently not do any further experiments until July/August this year. Soon after that, this text should be updated. If you wish to try this method in the meantime this may be used as a starting point:

**Theory**

Persulfates are strong oxidisers. They are reduced according to the following half-reaction:

\[ \text{REACTION} \]

The H\(^+\) generated in this reaction will prevent it from taking place below a certain pH. When a base is added to neutralise the acid generated the reaction may go to completion. All persulfate may be consumed in the reaction. Persulfate being a stronger oxidiser than perchlorate may be used to convert chlorates to perchlorates according to the following half-reaction:

\[ \text{REACTION} \]

Neither persulfates, chlorates or perchlorates are destroyed at a significant rate at the temperature of boiling water, so the reaction rate may be increased by boiling a solution containing the reactants.

**Oxidation of KClO\(_3\) by persulfate**

The general procedure I tried:

A solution of 30 g/l sodium persulfate was prepared and the pH raised to 14 by the addition of a concentrated sodium hydroxide solution. The sodium persulfate was obtained from an electronics supply store, where it was sold for etching printed circuit boards. A foggy solution was obtained, which was filtered. 5 ml of the clear solution obtained after filtering was added to a test tube. Approximately 1 gram of potassium chlorate was added to the same tube, and solution heated. The solution was boiled vigorously for 15 minutes during which time water was added occasionally to make up for what had evaporated. The solution was then allowed to cool. Upon cooling white crystals formed. These were filtered, washed with ice cold water and recrystallised. The crystal shape during recrystallisation was observed and found to resemble that of potassium perchlorate best. As described in the [analysis page](#), crystal shape is not a reliable way to determine the identity of a product however. The crystals obtained after recrystallisation were tested qualitatively for chlorate with phenylanthranilic acid (as described in the [analysis page](#)). Chlorate was shown to be present. It seems most likely that the chlorate was only partially converted to perchlorate. Maybe the addition of more persulfate or allowing a longer reaction time will convert more chlorate to perchlorate. Destruction of the chlorate followed by recrystallisation should afford a chlorate free product.
Chapter 5: Literature


3. Mike Brown's homepage

list under construction

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Important note: It is impossible to give a finite set of rules that will assure your safety in pyrotechnics. Described below you will find just some of the most important and common ('everyday') things that should always be kept in mind when handling pyrotechnic compositions and chemicals. They apply to a wide variety of compositions. But every composition is different. Some must be rammed or pressed to work properly. Other will explode when rammed. Some must be wet with water, others may spontaneously ignite when wet. Some mixtures are relatively safe to use by themselves but are extremely sensitive when used together. (A number of well known 'incompatible' mixtures and chemicals are also listed below). The point is: remember and think about the rules below, they are important, but realise any such list is inevitably incomplete. Accidents happen even in places where every conceivable safety precaution is taken. I don't guarantee your safety if you follow the rules below (also read the disclaimer), but merely say it is wise to do so. It'll increase your safety.

General Safety Precautions

With that said, a list of some generally useful safety precautions in no particular order:

1. Never smoke when handling chemicals or compositions.

2. Be sure you are familiar with all the properties of the compositions you work with. Thoroughly test new compositions for sensitivity, stability, compatibility with other mixtures etc, until you are absolutely sure that the mixture is ok to use in your application and method of construction. Find out as much as you can about other peoples experiences with a particular mixture.

3. Use only non-sparking tools. Make your tools from either: wood, paper, aluminum, lead or brass. Other metals and materials may spark (especially steel will).

4. Paper bags or wooden containers are good to use for storing mixed compositions. Store compositions dry and cool. Avoid plastics, glass and metal. Avoid storing compositions in general. Make as much as you will need in the near future and keep no more in stock than necessarry.

5. Never have large amounts of composition near you. If you must use larger amounts of composition in multiple items, store the bulk of composition in a safe place and bring only small amounts to your working place. Finished items should also be brought to a safe place immediately.

6. Prevent contamination of chemicals and mixtures. Have separate tools for every type of mixture (i.e. blackpowder-like mixtures, chlorates, perchlorates, etc) and clean them well with hot water and/or alcohol after use. It is no luxury either to have different sets of clothing for working with different mixtures. Wash them every time after use (dust collects in the clothing). If you have the possibility, have separate rooms or better yet: separate buildings for working with different types of mixtures/chemicals.

7. Related to 6: Keep a clean working place. Fine dust easily spreads all over your working place. Keep chemicals in closed cabinets or in a separate building. Mixtures should not be kept in the working place anyway (see rules 4 and 5).
8. Provide adequate ventilation. This is especially important when working with volatile solvents or (poisonous, flammable) powdered chemicals. Not only can you get yourself poisoned, vapour or dust may also ignite.

9. Be aware of static electricity buildup. Ground your working table. Monitor humidity and keep it above 60% as a rule of thumb. This can be especially important in winter when preparing for new years eve (on the Northern Hemisphere at least). Touch a grounded surface before you place things on it. Touch other people before handing over compositions or finished items. Wear cotton clothing, avoid synthetics (do not be tempted to wear fleece clothing if your working place is cold in winter). Simple things such as unscrewing a (plastic) bottle, unwinding some tape or even moving your arm may accumulate enough charge on your body to ignite a sensitive composition. The risk of static electricity is often underestimated or even completely ignored by beginning amateurs in pyro, while it is actually one of the major causes of accidents in both commercial/industrial and amateur pyro setups.

10. Wear proper protective clothing. A face shield, dust mask, heavy gloves and a leather apron are minimal. Wear cotton clothing. Hearing protection can be good but it also makes it harder to hear other people's warnings.

11. Provide safety screens between you and compositions, especially when pressing, ramming, sieving or in other ways causing frictions/shocks/pressure etc.

12. Be prepared for the worst. Have a plan for when something should go wrong. Have a fire extinguisher and plenty of water ready. Think beforehand of what might happen and how you could minimize the damage. Know how to treat burns. Inform someone else so he/she can help in case of an accident. Have a fast escape route from your working place.

'Incompatibilities'

Some combinations of chemicals lead to especially sensitive or instable mixtures. There are many more of such incompatible chemicals/mixtures than listed here but these are some of the more commonly encountered types:

1. Chlorates and sulfur. Mixtures containing both are not only very sensitive to friction and shock but are also known to ignite spontaneously. The sulfur reacts with water and air to form trace amounts of sulfuric acid. This will react with chlorates to form chlorine dioxide, a yellow explosive gas that will ignite most flammable materials upon contact. Addition of small amounts of barium or strontium carbonate to chlorate based compositions is sometimes done to prevent buildup of acid, even in compositions without sulfur. Many older texts on pyrotechnics describe the use of chlorate/sulfur based compositions. Today, many alternative and much safer compositions are available and there is therefore no excuse for the use of chlorate/sulfur mixtures. This also means chlorate based compositions cannot be used in items that also contain sulfur based mixtures. For example: chlorate based stars cannot be primed with black powder. Nor can a H3 burst charge be used with black powder primed stars (or stars containing sulfur).

2. Chlorates and ammonium compounds. Mixing these will allow ammonium chloride to form in a double decomposition reaction that takes place in solution (moisture speeds up
Ammonium chlorate is a highly instable explosive compound. It decomposes over time producing chlorine dioxide gas (see chlorates and sulfur). Mixtures are likely to spontaneously ignite upon storage or may explode for no apparent reason. An exception seems to be the use of ammonium chloride and potassium chlorate in some smoke compositions. According to Shimizu this combination is safe due to the lower solubility of potassium chlorate (compared to ammonium perchlorate). I personally would still use these mixtures with great caution (or avoid them) since it seems inevitable that small amounts of ammonium chlorate will still form. The lower solubility of potassium chlorate will make it the -main- product in a double decomposition reaction but not the -only- product.

3. **Chlorates with metals and nitrates.** These mixtures show the same problems as chlorate/ammonium compound mixtures. The reason is that nitrates can be reduced by most metals used in pyrotechnics to ammonium. The reaction rate of this reaction is increased by presence of water. Over time (for example when drying) these mixtures may spontaneously ignite or become extremely sensitive. The fact that ammonium forms in a relatively slow reaction is treacherous. These mixtures are referred to as 'death mixes' by some.

4. **Aluminum and nitrates.** Mixtures of these compounds sometimes spontaneously ignite, especially when moist. The mechanism is assumed to be as follows: the aluminum reduces some of the nitrate to ammonium, simultaneously forming hydroxyl ions. The aluminum then reacts with the alkaline products in a very exothermic reaction leading to spontaneous heating up of the mixture. This can eventually lead to ignition. The reactions take place in solution and therefore moisture speeds up the reaction. The process is usually accompanied by the smell of ammonia. Some types of aluminum are more problematic than others. Stearin coated aluminum is generally safer to use. The whole process can be prevented in many cases by the addition of 1 to 2 percent of boric acid. This will neutralise the alkaline products. It is best to bind such compositions with non-aquaous binder/solvent systems such as red gum/ethanol. Since aluminum/nitrate mixtures are extensively used it is important to be aware of this problem which is why the combination is listed here.
Analysis of products

When preparing chemicals for pyrotechnics compositions at home, it is important to confirm the identity and purity of the products. When impure chemicals are used the risk of accidents is greatly increased. Especially in the preparation of chlorates and perchlorates the risk is severe. The properties of each chemical in pyrotechnic compositions are very different, and very sensitive or unstable compositions may result from mistaking chlorate for perchlorates, or of not appreciating the risk of chlorate contamination sufficiently. Therefore, the identity and purity of the products should be determined. Also, in the process of preparing chlorates it is often usefull to know the chloride content of a solution. Several methods that may be used to determine the compositon of chloride/chlorate/perchlorate mixtures are described on this page. It will be assumed that the reader is familiar with common analytical chemist ry techniques, such as pipetting and titrating. These can be found in many textbooks.

1. qualitative test for chlorate
2. qualitative test for chloride
3. titration to determine chloride content
4. titration to determine chlorate content
5. gravimetric determination of chlorate
6. rough gravimetric determination of oxygen content
7. crystal shapes

Qualitative test for chlorate

Very often it is convenient to determine wheter a chlorate is present in a mixture or chemical. The possibility of chlorate contamination of homemade perchlorate is inherent to the process, and a test for the presence of chlorate is then essential. Two methods to determine the presence of chlorate will be described. The first, a colorimetric test, is very sensitive, quick and simple. Unfortunately it requires the use of a chemical that can probably only obtained from chemical suppliers. The second test is very unsensitive. It will only indicate a potassium chlorate contamination worse than 20% by mass of potassium perchlorate. It may be used to distinguish between chlorate and perchlorate, but not to determine wheter your homemade perchlorate is pure enough to be handled as pure perchlorate.

Colorimetric test for chlorate

This test will indicate the presence of very slight chlorate contamination. It is convenient for testing pyrotechnic mixtures since nitrate, chloride, nor perchlorate will disturb the test.

1. Take approximately 100 mg of phenylanthranilic acid, and put this in a test tube.

2. Add 0.5 ml of concentrated sulphuric acid an shake to dissolve the phenylanthranilic acid. This usually takes a few minutes.
3. Place a 500 mg sample of the material to be tested in a test tube and add 2 ml of water. Shake well to dissolve all chlorate possibly present. Filter if insoluble purities are present.

4. To this sample solution, add a few drops of the phenylanthranilic acid solution. An orange or red color indicates presence of chlorate. A solution of pure perchlorate or chloride merely gives a white precipitate.

'Acid sensivity' test for chlorate

This test is very unsensitive but may be used to distinguish chlorate from perchlorate or indicate very heavy contamination of a perchlorate with chlorate. It relies on the fact that chlorate/sugar mixtures ignite when they contact sulfuric acid.

1. Take some sample material and make this into a fine powder with a mortar and pestle.

2. Clean the mortar and pestle well with hot water, dry it well, and then grind up some common table sugar.

3. Take 500 mg of the powdered sample and 500 mg of the powdered sugar. Mix these carefully using the diapering method.

4. Place this mixture on a tile outside and drop a drop of concentrated sulphuric acid on it. If the mixture contains more than 20% chlorate it will ignite.

Qualitative test for chloride

When in the process of purifying chlorates, it is quite useful to determine whether the chlorate has been successfully separated from chlorides or not. Though chloride contamination is usually not very dangerous for pyrotechnic purposes, it will disturb flame colors and increase hygroscopicity of a mixture. The following test will indicate chloride contamination.

1. Take 100 mg of sample material and add 2 ml of water. Shake to dissolve any chloride possibly present. If necessary, filter to remove insoluble impurities.

2. Add a few drops of 10% (w/v) silver nitrate solution. If chloride is present, a white precipitate will form.

Titration to determine chloride content

When using the electrolytic procedure to prepare chlorates, this method may be used to determine the amount of chloride still present in the electrolyte. It requires some tools and chemicals not every amateur pyro will have. It is probably not possible to do this accurately using improvised equipment.

1. First, prepare a silver nitrate solution. Dry some finely powdered analytical grade silver nitrate at 120 deg C for 2 hours and allow it to cool in a covered vessel in a desiccator.
Accurately weigh about 8.5 g, dissolve it in water and make up to 500 ml in a graduated flask. Calculate the molarity from the weight of silver nitrate employed. If 'pure recrystallised' silver nitrate is used instead of analytical grade, the solution should be standardised against sodium chloride before use, using the procedure outline below. Solutions of silver nitrate should be protected from light and are best stored in amber-colored glass bottles.

2. Then, prepare an indicator solution by dissolving 5g potassium dichromate in 100 ml of water. Alternatively, and preferably, dissolve 4.2g potassium chromate and 0.7g potassium dichromate in 100 ml of water.

3. Pipette a sample of such volume as contains approximately 0.025 moles of chloride into a 250 ml conical flask resting on a sheet of white paper. Dilute to approximately 25 ml.

4. Add 1 ml indicator solution (preferably with a pipette).

5. Now, slowly add silver nitrate solution from a burette, swirling the flask constantly until the red color formed by the addition of each drop begins to disappear more slowly: This is an indication that most of the chloride has been precipitated.

6. Continue the addition dropwise until a faint but distinct change in color occurs. this faint reddish-brown color should persist after brisk shaking.

7. Determine the indicator blank correction by adding 1 ml of the indicator solution to a volume of water equal to the final volume in the titration and then 0.01M silver nitrate solution until the color of the blank matches that of the solution titrated. The indicator blank correction, which should not amount to more than 0.03 - 0.10 ml of silver nitrate, is deducted from the volume of silver nitrate used in the titration.

8. Repeat the titration two more times and average the results. The titrations should agree within 0.1 ml.

Titration to determine chlorate content

Trace amounts cannot be detected with this method, but it is very convenient to determine the chlorate content of the electrolyte in chlorate or perchlorate cells during operation. Two procedures are described below. Both work well. The sample solution must be free of hypochlorite. This can be accomplished by reducing the hypochlorite by addition of an excess of oxalic acid, followed by titration with potassium permanganate in the usual manner.

Iodometrically

1. Treat the sample to remove hypochlorite, and dilute it such as to obtain a solution containing approximately 0.02M of chlorate.
2. Place 25 ml of the chlorate solution in a glass-stoppered conical flask and add 3 ml of concentrated hydrochloric acid followed by two portions of about 0.3g each of pure sodium hydrgencarbonate to remove air.

3. Add immediately about 1.0 g of iodate-free potassium iodide and 22 ml of concentrated hydrochloric acid.

4. Stopper the flask, shake the contents, and allow it to stand for 5-10 minutes. Iodine is liberated according to the following reaction:

\[ \text{ClO}_3^- + 6\text{I}^- + 6\text{H}^+ \rightarrow \text{Cl}^- + 3\text{I}_2 + 3\text{H}_2\text{O} \]

4. Titrate the solution with standard 0.1M thiosulphate in the usual manner.

**Using ferrous sulphate**

1. Treat the sample to remove hypochlorite, and dilute it such as to obtain a solution containing approximately 0.02M of chlorate.

2. Place 25.0 ml of the sample solution in a 250 ml conical flask.

3. Add 25.0 ml of 0.2M ammonium iron(II)sulphate solution (Mohr's salt) in 2M sulphuric acid.

4. Cautiously add 12 ml of concentrated sulphuric acid.

5. Heat the mixture to boiling, and cool to room temperature by placing the flask in running tap water.

6. Now, either titrate the excess of Fe\(^{2+}\) with potassium permanganate or with 0.02M potassium dichromate with an indicator of 20 ml 1:1 water/phosphoric(V) acid and 0.5 ml sodium diphenyl-amine-sulphonate.

**Gravimetric determination of chlorate**

Trace amounts cannot be detected with this method, but it is very convenient to determine the chlorate content of the electrolyte in chlorate or perchlorate cells during operation. Burettes are not required, nor are carefully prepared standardised solutions. An accurate scale is however.

1. Boil the sample for 15 minutes to destroy remaining hypochlorite.

2. Dilute the sample to obtain about 100 ml of a solution containing approximately 0.2g ClO\(_3^-\).

3. Add 50 ml of a 10 per cent solution of crystallised iron(II)sulphate, heat with constant stirring to the boiling point and boil for 15 minutes.

4. Allow to cool, add nitric acid until the precipitated basic iron(III) salt is dissolved, precipitate
the chloride by means of silver nitrate solution, and collect and weigh as AgCl after the usual treatment.

**Rough gravimetric determination of oxygen content**

This is a quick and simple method to determine the amount of oxygen present in a mixture of chlorides, chlorates and perchlorates. Mixtures of chlorides with chlorates or of chlorates with perchlorates are most commonly encountered. Of these mixtures, the ratio between the two compounds can be determined. It can be useful to analyse a cell electrolyte. An accurate scale is required for this method to work well.

1. Accurately weigh a test tube, and record the weight. This is $M_1$.

2. Place approximately 1 gram of finely powdered sample in the test tube.

3. Very gently heat the test tube at low heat to dry the sample. At regular intervals, weigh. If the weight no longer decreases the sample is dry.

4. Add approximately 100 mg of dry manganese dioxide, mix well, and weigh. Record the weight, this is $M_2$.

5. Now, strongly heat the sample. It will melt and decompose. After some time it will solidify. Then, heat more strongly. If perchlorates are present another decomposition reaction will take place just before red heat. Do not heat so strongly as to melt the glass tube. The decomposition will be complete before that.

6. Allow the tube to cool and record the weight. This is $M_3$.

7. The composition of the sample can be indicated by the formula $\text{KClO}_x$, $x$ being the molar oxygen content. So, for chlorides $x = 0$, for chlorates $x = 3$ and for perchlorates $x = 4$. Values in between are mixtures (eg $x = 3.5$ indicates a 50:50 mixture of chlorate and perchlorate).

$x$ can now be calculated using the following formula:

$$x = \frac{(M_3 - M_2) \times M_y}{16 \times (M_3 - M_1)}$$

Where $M_y$ is the molar mass of the chloride. For example, if the sample consisted of potassium salts, $M_y$ is the molar mass of potassium chloride, 74.6g.

**Crystal shapes**

Another quick (but unreliable) way to distinguish between chlorates and perchlorates is by observing the crystals that form upon recrystallisation. This is not a reliable method and only works if there is either a large fraction of chlorate in the mixture or if you know for sure you...
have either pure chlorate or perchlorate. In the latter case this can be used as a simple and reasonably reliable test to distinguish between the two compounds. The crystals shapes described below are valid only for potassium compounds and not for sodium or ammonium compounds.

Possible shapes

Crystals that form from KCl/KClO3/KClO4/NaCl/NaClO3/NaClO4/HCl mixtures in various compositions come in many different shapes. The most common shapes seen are these:

<table>
<thead>
<tr>
<th>through a microscope</th>
<th>By the bare eye</th>
<th>crystal shape</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Flat plates" /></td>
<td><img src="image" alt="Monoclinic" /></td>
<td>monoclinic</td>
</tr>
<tr>
<td><img src="image" alt="Cactus needles" /></td>
<td><img src="image" alt="Monoclinic" /></td>
<td>monoclinic</td>
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<tr>
<td><img src="image" alt="Rhombic" /></td>
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The first crystal type, 'flat plates', is potassium chlorate, KClO3. The crystals that form are very thin plates, almost square. They sometimes refract light in many colors since they are so thin initially (of the same order of magnitude as the wavelength of light). They are quite light and float in the solution and on its surface. When they grow larger they sink and stop refracting colored light.

The second crystal shape, sometimes described as 'cactus needles', is also potassium chlorate, KClO3. It looks entirely different from the first shape, but the lattice structure is the same. The crystal shape is influenced by the presence of other species in the solution from which it crystallises (such as remaining unconverted chloride).

The third crystal shape is impure potassium perchlorate, KClO4. It looks like needles, but the way they grow together is different from the cactus needles. They don't form clusters like the cactus needles and grow longer and thinner. Under a microscope you can clearly see they are rhombic. Pure potassium perchlorate looks different, and the difference is again caused by presence of impurities.
The fourth crystal shape is pure potassium perchlorate, KClO4. When you crystallise a solution slowly enough fairly large crystals can form from the solution (up to 0.5 cm or so). These are clearly rhombic as can be seen with the bare eye. Under a microscope smaller crystals can be identified quite easily.

These conclusions were drawn after crystallising from solutions of every possible combination of the compounds mentioned above and are confirmed by powder X-ray diffraction analysis.
Mixing techniques

Mixing of pyrotechnic ingredients is a basic skill that every pyro must master. Mixing pyrotechnic compositions is not as simple as it may seem at a first glance and improper mixing techniques are a common cause of accidents among beginning amateur pyro's. Depending on the sensitivity and required properties of the mixture different mixing techniques may be employed. You'll find three descriptions of accepted methods with which most mixtures can be made.

Diapering method

Screening method

Ball milling method

**Diapering method**

The diapering method can be used for a wide variety of mixtures of all sensitivities. It produces very little friction and is used for mixtures as sensitive as flash as well as for less sensitive mixtures such as most types of fountain compositions. Up to a pound of composition may be conveniently mixed at a time (although this is strongly discouraged for powerfull and sensitive mixtures such as flash).

1. Prior to mixing, sieve the chemicals to remove clumps. Sieve each chemical separately. Break any clumps up, sieve again, and repeat this until all passes the sieve.
2. Take a large sheet of (not too thin) paper and spread it out on a flat surface.
3. Place the chemicals in the center of the paper.
4. Pick up two opposite corners of the paper and alternately lift them so that the chemicals roll together.
5. Before the composition tends to fall off the paper, place the sheet back on the working surface and pick up the two other corners. Repeat the previous step with these corners.
6. Repeat as often as necessary to obtain a homogenous mixture.

**Screening method**

This method produces more friction than the diapering method. It is therefore unsuited for sensitive mixtures such as flash. It is advised to use this method only for relatively insensitive mixtures such as black-powder like mixtures. Metal containing mixtures are best mixed with the diapering method as metal particles may spark with the sieve. Main advantage of the screening method is that it is fast and much less laborious than the diapering method.

1. Take a sieve with a coarse grid. It is much preferable to use a brass sieve since it will not spark.
2. Place the chemicals together in a (wooden or glass) bowl and mix them roughly with a
Skoop the mixture on the sieve and sieve it onto a paper sheet. When all has passed, transfer the mixture to the bowl again and repeat the sieving as often as necessary to obtain a homogenous mixture. Small clumps that won’t pass through the sieve may be broken up by applying gentle pressure with the back of a wooden spoon or a piece of paper.

**Ball Milling method**

Mixing with the ball milling method produces a lot of friction, shocks and maybe static electricity and is therefore dangerous. It can only be used with very insensitive mixtures and even then it must be done with utmost caution and proper safety precautions. The only reason it is used (besides that it is very simple and not labour intensive) is that it will produce superior mixtures: extremely homogenous and well mixed. For making lift-grade quality black powder a ball mill seems essential. I would advise that only mixtures of potassium nitrate, charcoal and sulfur be mixed with the ball milling method. Other mixtures are usually more sensitive. Of course most pure chemicals can safely be ground with the ball mill. Also see the notes on the pages dealing with [making black powder](http://huizen.dds.nl/~wfvisser/EN/mixing_EN.html) and the [ball mill](http://huizen.dds.nl/~wfvisser/EN/mixing_EN.html).

1. Take a ball mill
2. Insert the chemicals, wet them with an appropriate solvent
3. Turn it on and let it run for the required time to obtain a homogenous mixture.

That's basically all there is to the mixing itself. Safely operating a ball mill is a subject on its own and is not described here. Read the linked pages above for some comments on that.

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[Back to main page](http://huizen.dds.nl/~wfvisser/EN/mixing_EN.html)
Black powder

Black powder is the most often used mixture in fireworks. A long time ago it even was the only mixture used, since nothing else was available. While many new mixtures have been invented partially because new compounds became available, black powder still hasn't lost its special place in pyrotechnics. Partially because of tradition, partially because of its properties: it is quite safe to handle, suitable for a wide variety of uses (such as lift charges, delay charges and priming stars or fuse to name a few), and is compatible with many other often used mixtures.

Making black powder

Reasonable quality black powder can be made at home, although it is very hard if not impossible to match the quality of commercial black powder with amateur equipment. It is perfectly possible however to produce a powder suitable for lift charges, firecrackers, rocket propellants and most other things. There are several methods for making black powder. Two are described on the linked page, but if you find it necessary the powder can be improved by pressing and corning. This is not described here since I found the powder good enough for all my purposes as it was without pressing.

Testing black powder

It can be very useful to compare the quality of several types or batches of black powder, especially when you are just starting and figuring out what works best with your particular setup and materials. Just to get some idea of the quality of the first batches of black powder I made with my ball mill I did some burn rate tests. They clearly show the superior quality of the black powder thus made, compared to that made with other methods I had been using then.
Making black powder

In many textbooks, the process of making black powder is simplified. Merely mixing the components, potassium nitrate, charcoal and sulfur, does not result in real black powder. That variety of the mixture is commonly called 'green powder' or 'polverone'. It burns relatively slowly. 'Real' blackpowder however burns very quickly, leaving almost no residue. Its properties are very different from polverone. Making black powder at home is possible, although it will require the use of a **ball mill**. The black powder produced by either of the two methods described below is suitable for most common purposes. The powder can be further improved by pressing and corning, but that will not be described on this page.

The components

The standard formulation for black powder is: 75 parts potassium nitrate, 15 parts charcoal and 10 parts sulfur (as always, all parts are by weight).

You can find information on finding these chemicals on the [chemicals page](http://huizen.dds.nl/~wfvisser/EN/bp_making_EN.html).

Which method to use

There are two methods to make BP: The ball mill method and the precipitation (or CIA) method. You'll need a **ball mill** in any case. While both methods work well, they each have their own advantages and disadvantages. The main disadvantage of the ball mill method is that it is essential that you have a safe place to let your mill do it's work. You need a place with no buildings, people or animals whatsoever in the neighbourhood, and you need to be able to turn it on and off remotely. It also makes a lot of noise. Advantage of the ball mill method is that it is less laborous. You can simply charge your mill with the ingredients, turn it on, do something else for a couple of hours and you're done. The CIA method is much more work: you first mill the charcoal and sulfur together (just like you would with the ball mill method), but then you dissolve the potassium nitrate in hot boiling water which you mix with the Charcoal/Sulfur. Then you precipitate the potassium nitrate from the solution by mixing it with ice cold isopropyl alcohol. This is followed by filtering (messy) and drying (takes a long time, and a good place with no ignition sources, since there is a flammable liquid involved).

The ball mill method

1. Take your raw charcoal and crush it with a hammer between two sheets of paper. Wear old clothing and do this outside, since it is very messy. Sieve the charcoal through a coarse sieve (about 30 mesh).

2. Weigh the charcoal. To every 100 grams of charcoal, add 67 grams of sulfur, and fill 1/4th of your ball mill with this mixture. Put the media in and let the mill run for 3 hours.

3. When you open your mill, you should find an incredibly fine black/greyish powder. Sieve this to get the media of the mill out, and weigh it. In a separate container, place 75 grams of
potassium nitrate for every 25 grams of charcoal/sulfur powder you have. Put the potassium nitrate in your ball mill, and mill it for 3 hours. You should have a very fine white/greyish powder.

4. Now mix the charcoal/sulfur mix with the potassium nitrate. Don’t bother to mix it very thoroughly, since that will happen in the mill soon enough. To this mixture, add 6% of water. I spray it over the powder that I spread out on a sheet of paper to make sure all of it becomes wet. Put the wet powder in your mill and let it run for 5 hours. Every hour or so, check to see if the powder is still wet. If it dries out the risk of accidental ignition greatly increases.

5. Sieve the powder to get the media out, spread it out on a large sheet of paper and let it dry. If possible in the sun. Needless to say you shouldn’t heat it in order to dry it more quickly, just be patient.

6. When dry, sieve the black powder through a few sieves to get several fractions for different purposes.

The precipitation method

1. Take your raw charcoal and crush it with a hammer between two sheets of paper. Wear old clothing and do this outside, since it is very messy. Sieve the charcoal through a coarse sieve (about 30 mesh).

2. Weigh the charcoal. To every 100 grams of charcoal, add 67 grams of sulfur, and fill 1/4th of your ball mill with this mixture. Put the media in and let the mill run for 8 hours.

3. While the mill is running, place 600 ml isopropylalcohol in a large container for every 100 grams of charcoal/sulfur mix you have, and place it in the fridge.

4. When you open your mill, you should find an incredibly fine black/greyish powder. Sieve this to get the media of the mill out, and weigh it. In a separate container, place 75 grams of potassium nitrate for every 25 grams of charcoal/sulfur powder you have. Put the potassium nitrate in an old pan, and add 40 ml tap water for every 100 grams of potassium nitrate.

5. Place the pan on the stove and bring it to a boil while continuously stirring. When the solution starts boiling, start adding small amounts of water while stirring all the time until all the potassium nitrate has dissolved.

6. Add an extra 10 ml tap water and the charcoal/sulfur mixture to the boiling potassium nitrate solution. Stir the charcoal/sulfur mixture in the solution. Make sure there are no dry clumps left.

7. By now, your isopropylalcohol should have cooled to at least 0 deg C or colder. Take the isopropylalcohol outside, and pour the potassium nitrate solution/charcoal/sulfur into the cold isopropylalcohol. Make sure there are no sources of ignition nearby! Stir for a few seconds.

8. Cool the mixture again to 0 deg C at the fastest rate you can. The faster the better.

9. Filter the mixture through an old cloth, and squeeze to get all the liquid out. Discard the black liquid.
10. Spread the black mush out on a sheet of paper, and dry it in the sun. Don't try to dry it inside since it will produce a lot of flammable vapour from the isopropylalcohol. When it is still slightly wet to the touch, press it through a sieve to corn it. Then dry it further.

11. When dry, sieve the black powder through a few sieves to get several fractions for different purposes.
Ball Mill

A ball mill is a device that can be used to grind chemicals much more easily and to a finer consistency than can possibly be done by hand with a mortar and pestle. It is often useful to grind chemicals in order to increase their surface area. This will generally increase the rate at which they react in a pyrotechnic composition and make mixtures more homogenous which results in a steady burn rate. For making good quality black powder at home a ball mill is essential, and black powder is needed in very many pyrotechnic devices.

Note: ball milling inevitably causes friction and shocks and possibly leads to static electricity buildup as well depending on the design. Ball milling of mixtures should only be attempted when an appropriate place is available to operate the mill (i.e., one where it causes no damage or injury in case of explosion) and it must be turned on and off remotely. Most chemicals can be milled more safely but several sets of balls and containers must be available to prevent contamination and milling of metal powders can be dangerous as they may become pyrophoric.

A book on building a ball mill

I found instructions to build a rock tumbler in an old geology magazine, which I changed a little for pyrotechnic use. There is however a book that is written especially for beginning pyrotechnicians that would like to build their own mill: "Ball Milling Theory and Practice for the Amateur Pyrotechnician" by Lloyd E. Sponenburgh (a frequent poster on rec.pyrotechnics). Although I do not own the book myself, I've heard from many people that it is worth the money. It includes instructions for building your own mill from scratch, even casting your own media.

Materials

For the design described here, you can use a standard electrically powered drill as the motor, which most people already have. The drill can still be used the normal way, and when something needs to be milled, the drill can be attached to the mill for a couple of hours. Of course, you can also buy an old motor from a washing machine or similar device at a scrap yard. Sometimes motors can be bought there for $3 or less.

Something else you will need is two ball bearings, a piece of roundwood that fits the bearings and two small wheels (like the ones used under furniture).

Then you will need some pieces of wood to put the thing together. I used some leftover pieces from something else I build. You won't need much, so if you can't find some old wood to use, you might as well buy it.

Most of the money was spent on milling media (Hfl 60,- or $35). I bought 150 lead balls of 1.78 cm diameter in a hunting supplies store. They are used for reloading rifles.
Putting it together

The device itself is pretty simple. The pictures below almost speak for themselves. I'll just give some notes about the individual components, feel free to ask questions if anything is unclear.

The container

I used a piece of 11cm diameter PVC pipe to make the container. It can be sealed with the appropriate end caps that are usually sold in the same place they sell the PVC pipe. The caps seal the pipe very well. It never leaks, reducing the risk of accidental ignition. You can of course use larger diameter pipe for the container to increase the capacity of your mill, but of course you'll need more (expensive) media then to fill half of your mill.

The media

You will need lead or brass balls to fill the container with. The reason lead and brass work well, is because they don't spark. Sparks could accidentally ignite the mixture you are milling, with disastrous results. Other media such as glass, steel or ceramic can be used for pure chemicals and non explosive mixtures but not for ignitable substances. How much media will you need? I recall that it is most efficient to fill exactly half of your container with balls. My container is 11 cm diameter and 34 cm length, for which I needed 150 lead balls of 1.78 cm diameter.

The roller

To prevent the container from slipping on the roller, you will need some of that 'anti-slip' tape that they sell in some hardware stores. I had a hard time finding it, so maybe you will have to come up with another solution. Slipping will surely occur otherwise. Maybe sliding rubber hydrolics tubing over the roller will work also, but I haven't tried that. There is also a latex spray available in the 'cars' section in our local hardware shop. That may work too. Another idea is to use draft prevention strips. They are made of some kind of foam and have good grip on the container.

Using the mill

Ball milling can be dangerous. It inevitably causes friction and shocks that could ignite a mixture. Depending on your container and media material and the substance you are milling the process can generate static electricity as well. Milling metals can make them pyroforic. When a mixture ignites inside the mill the results can obviously be disastrous. The explosion will produce large amounts of shrapnell from the media and the milling container that can be hurled away hundreds of meters. Under no circumstances should you attempt to mill explosive mixtures such as black powder inside or near a building. Operate it on a piece of open terrain and turn the ball mill on and off remotely. Barricade it with sand bags. You can often safely mill pure compounds, but be aware that metals (which can be milled with steel media) can become pyroforic and ignite when you open the milling container (thereby letting oxygen in). Pyroforic
metal powders can be very treacherous. They do not necessarily ignite immediately (although it could happen), but after some time when you think they are safe since there has been no reaction upon contact with air. When ignition occurs expect a large, extremely hot ball of flame, the burns of which can easily cause a painful death. Use your common sense when ball milling and be prepared for the worst.

I do not know whether the materials I chose for my ball mill (PVC and lead) generate static electricity. I have prepared many batches of black powder in my mill (using a wet process) and have not had any accidents so far. Any comments on the above design are very welcome (wfvisser@dds.nl).

Pictures

Front view

Top view

Front and top
The container

Back to main page
The way black powder is made is of great influence on its quality. Several methods exist to determine the quality of black powder, but not all methods are quick and easily done at home. Also, it is not always clear what is considered 'good quality'. Different uses require different properties. With the method described below the burn rate of pressed black powder is determined. Keep in mind that the burn rate of pressed and loose (corned) black powder are usually different. Still, the test gives an objective indication of the burn rate which can be a measure of quality. For many purposes (lift charge, propellant) a high burn rate is good.

The test

1. Roll paper tubes of 12 mm inner diameter from 30*5 cm strips of paper. The kind of paper used probably influences the results so once you chose your paper use the same kind from then on. Fine tubes can be rolled from the brown gummed paper tape that is sold in artist paint supply stores. Use strips of about 30 cm length, 5 cm width (note the dimensions in your pyro journal and use the same sizes from then on). Let the tubes dry and fold a piece of tissuepaper (same paper every time, same size, folded the same way) and ram this in the tubes (same number of strokes, same pressure etc.).

2. Fill the tubes with black powder by scooping a small amount (same amount every time) in and ramming it with a wooden dowel and rubber hammer (same everything). Repeat this until the tubes are almost completely filled. Leave about 4 mm unfilled. Fill at least two tubes per type of black powder. Fold a piece of visco and place it on the black powder. Hold in place with a piece of tape on the outside of the tube.

3. Ignite the fuse and measure the burning time. Of course this can be done with a stop watch, but it is more accurate to do this electronically. A convenient way is recording the sound of a burning tube. A burning tubes makes a reasonably loud rushing sound which can be easily recognized from background noise. If you then digitize the sound the burn time can be determined accurately with one of the many available (shareware) programs for sound manipulation. Another possibility is video taping the burning tube and counting the number of frames in slow motion playback.

4. Average the measurements.

Some results

Four types of black powder I still had from previous experiments were tested. These powder are not representative for good black powder, but it illustrates the kind of results that can be obtained. The black powders were prepared as follows:

1. Willow charcoal with sulfur (=95% sulfur, 5% CaCO3) mixed in a ball mill for 15 minutes. Proceeded with precipitation (CIA) method where denaturated ethanol was substituted for
isopropyl alcohol. The short milling time makes this powder much slower than it could be.

2. Barbeque charcoal (brand 'Pyrogrill') was crushed with a hammer and sieved through a (coarse) sieve for kitchen use. The charcoal was mixed with 'spuitzwavel' (=80% sulfur) and potassium nitrate. To this mixture more than enough boiling hot water was added to dissolve the potassium nitrate. This was heated until it was boiling again and slow heating with continuous vigorous stirring was continued until a slurry formed. The slurry was cooled as quickly as possible in an ice bath. Upon cooling the mass solidified. The chunks that formed were dried in the sun, crushed and sieved. **WARNING**: this is not a safe way to prepare black powder and it should never be used.

3. A few firecrackers ('astronauten' from Schuurmans, Leeuwarden) were opened and the black powder was taken out.

4 (I tm IV). Willow charcoal was mixed with gardening sulfur (=95% sulfur, 5% CaCO3) and the mixture was ball milled for 3 hours. The potassium nitrate was ball milled separately for 1 hour. The potassium nitrate and charcoal/sulfur mixture were mixed and wetted with 6% (by weight) of a denatured alcohol/water mixture (50:50). The wet mix was ball milled for another hour. Four batches of this type of black powder were made and tested: 4I, 4II, 4III and 4IV. This is the **ball mill method**.

The following average burn times and standard deviations were measured:

<table>
<thead>
<tr>
<th>Black powder</th>
<th>Average burn time (s)</th>
<th>Abs. standard deviation (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>'CIA'</td>
<td>7.39</td>
<td>0.05</td>
</tr>
<tr>
<td>'slurry'</td>
<td>8.97</td>
<td>0.03</td>
</tr>
<tr>
<td>'astronauten'</td>
<td>8.54</td>
<td>0.08</td>
</tr>
<tr>
<td>'normal' 4I</td>
<td>4.55</td>
<td>0.15</td>
</tr>
<tr>
<td>'normal' 4II</td>
<td>3.66</td>
<td>0.04</td>
</tr>
<tr>
<td>'normal' 4III</td>
<td>3.430</td>
<td>0.024</td>
</tr>
<tr>
<td>'normal' 4IV</td>
<td>3.40</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Set out in a graph:
It is seen that the powder made by the ball milling method is by far the quickest of the types tested. Also, the powder Schuurmans puts in their crackers (nr. 3) is relatively slow. This powder has a dark color (compared to the other powders) and may have a higher carbon content than the standard formulation 75/15/10 (KNO3/charcoal/S). The method is accurate enough to distinguish between batches of black powder. All four batches were made with the same method using the same ingredients. A new batch of charcoal was prepared for each individual batch of black powder though, which may explain the differences between the batches.

It would be interesting to use this test to see what the effect of different charcoals is on the burn rate. Also, the effect of additions of small amounts of some other compounds may be interesting.
Feticidal Fantasy
Frequent Poster

I did an experiment for acetone peroxide using two differetns kinds of hydrogen peroxide, the %3 kind sold in brown bottles at the drug store and cream peroxide hair blech. The 3% (which i used double) worked good with a nice yield. I lit it with a safety fuse and it was fucking amazing. The cream peroxide hair blech stuff, it never really formed any crystals, just this white foam stuff, and once i let the foam dry, i made it into AP putty, and it did not ignite or react to flame at all. it wouldn't even burn.. by the way, I made the trimer(HCl) version. The bottle of h2o2 cream said it was 'stabilized' does that mean it cannot react because it is stable and thats why it didnt work?.. anyways, just letting you all known not to use cream peroxide, and that 3% antiseptic shit works great.

poison
Frequent Poster

This don't have to do with the h2o2 but i had a idea im not sure if it would work at all actually i doubt it but can you use nitric acid instead of sulferic or hydrochloric or can you use nitric and another acid to make it stronger?
-pois

Saiyan Knight
Frequent Poster

The cream peroxide contains many impurities. You should use the liquid hydrogen peroxide hair bleach. Also I wouldn't go around trying different acids to use as a catalyst in making acetone peroxide other than hydrochloric and sulfuric acids. You could get hurt.
I use 9% bottled stuff from the chemist, works just fine. I was tempted to try the cream once but I looked at the packet and it was filled up with loads of other crap. The best thing to do if you want loads of H2O2 is to just steal it all from the chemist (the one near me keeps it behind the counter, so I usually have to pay).

As for using other acids, I think using nitric would not create the expected result, either it would nitrate the end product - destroying it or making a different chemical (possibly still an explosive) - or it might not even react with them - so not product at all.

------------------

ezekiel@cannabismail.com

"Hitler bad, explosions good"

------------------

Once again, the difference between the dimer and the trimer is NOT the acid but the temperature at which the reaction takes place. The warmer the reaction, the more likely you will form the less desireable dimer. The reaction can use any acid to complete the reaction, as it is acid "catalyzed." No acid is more or less powerful as it does not actually get used. Of course unintended byproducts can and do occur. The difference in yield on the small scale synthesis is probably not observable. I don't even know where hydrochloric acid comes into play out there in all of those crap books because I have found the original research data (that's how I know so much😊) and it used sulfuric acid. HCl may just be a bit weaker vs. sulfuric acid, enough that pure sulfuric may cause unwanted heating so it needs to be diluted whereas HCl is already diluted most of the time. Any of these acids works the same...

There must be another research article out there comparing different acids, hmm.

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------------------

I thought that the acid made the difference and I been thinking that to man....

-poison
I also thought the acid made the difference, I decided to use HCl because at the time I bought it, I had no source of sulferic acid. Since then I have found they sell 93% sulferic acid at my local hardware store as a drain cleaner, but it is very expensive ($15 for 32 oz) and the HCl(32%) was very cheap, I got 2 gallons for $3.99. I dont know what the tempature was for my reaction, I just did it out in the open, mixed it up then stuck it in the fridge, the bottle got noticeably warm as i was stiring but not too hot. Im going to buy some sulferic acid, pour it into a different container, fill the original container up with water and return it to the store for a full refund. hehe.

----------

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! http://www.seduced.to/fuckyourmother

Pyrotek
unregistered

I need to know how much of each ingredient i should use to make acetone peroxide. I have 9% hydrogen peroxide, 30% HCL, and I used nail polish remover cuz it has acetone. How much of each chemical should i put into the reaction? I've made acetone peroxide before with 30% HCl, 30% hydrogen peroxide(which i got from a lab), and nail polish remover. It had great yield, but I ran out of the H2O2, and only have a small amount of the 30% HCL left. Any Suggestions???

Saiyan Knight
Frequent Poster

When using 9% hydrogen peroxide, use 300mL hydrogen peroxide, 200mL acetone and 70mL hydrochloric acid.

dlwdaw
Frequent Poster

use real acetone, i'am sure it will yeald a much purer and more stable product, not to mention more AP, all you do is go to the hardware store and buy it in the paint thinner section(near the paint section). you can also buy muriatic acid(hydrochloric acid).you can buy MEK(methyl ethyl ketone) to make MEK peroxide, you can also buy, I dont know if these are useful but here they are denatured alcohol linseed oil laquer thinner

I love looking in hardware stores, they are cool. they've got pipes(I would only use PVC to make a pipe bomb, I have never made one but i want to make a small one), solvents, acids,glue, tools,
poison
Frequent Poster

How sensitive is MEK peroxide? More then acetone peroxide? How stable and what is the shelf life of it?
-pois

poison
Frequent Poster

Sorry for all the questions but one more how do you make MEK peroxide?
-pois

dlwdaw
Frequent Poster

Sorry for bringing up an OLD thread but...
opisen was asking about MEK peroxide. I think MEK and acetone are the same thing, and same procedure same amount everything.

-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ho_ju
Frequent Poster

what proportions should you use to make acetone peroxide when you have 100% acenton 3% h202 and 20% hcl?

-----------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
MEK and acetone are 2 different but related chemicals. If you look at the formulas you'll see. They're both ketones and can both form peroxides.

And here's an idea to try out. Use citric acid instead of H2SO4 or HCL. It works in the HMTD process and that uses peroxide as well so it should work. Citric is non-fuming and not corrosive to the skin so no special precautions required in handling.

And as for all the questions about how much of this and that to use at this concentration, whatever happened to the scientific method? Make a batch, see how much you get, then make another batch with more or less of 1 chemical and see how much you get. If you get more, keep going till you don't get more product by adding more of the 1 chemical. Repeat with the other chemicals.

you know nbk that is a good point. i (along with other people on this forum) have taken advantage of it in some respects. whatever happen to experientiation? (sp?) isn't that the basis of chem anyway?

--------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

Does anyone have the stoichiometry of the reaction? Also, does anyone know what the optimum temperature for the trimer reaction to take place at and approximately how long it should be held at this temperature (72 hrs.)? Also has anyone had any experience with the shelf life and stability of the trimer below 0C?

Bob's Rent A Cow
**Loopkin**  
A New Voice

posted October 17, 1999 06:54 AM

I think the reaction may be:

\[ 3(C_3H_6O) + 3(H_2O_2) \rightarrow C_9H_{18}O_6 + 3H_2O \text{ (tricycloacetone peroxide)} \]

and

\[ 2(C_3H_6O) + 2(H_2O_2) \rightarrow C_6H_{12}O_4 + 2H_2O \text{ (dicycloacetone peroxide)} \]

But i’m not sure of it.

---

**Ho ju**  
Frequent Poster

posted October 17, 1999 04:18 PM

what type of container should i use. i know hcl does a number on metal but when using 400ml of 3% h2o2 and 200ml of acetone. would 90ml of 20% hcl do anything to a metal can?

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

**VeHeMT**  
Frequent Poster

posted October 17, 1999 04:30 PM

Just use a jar.

---

**Ho ju**  
Frequent Poster

posted October 17, 1999 11:04 PM

does the jar have to be sealed/ can it be sealed? or should it be left open to the air?

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---
Ho ju
Frequent Poster

posted October 21, 1999 04:03 PM

has anyone used muriatic acid to make AP? if so how good does it work.

---------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Ve He MT
Frequent Poster

posted October 21, 1999 07:11 PM

It works fine

Ho ju
Frequent Poster

posted October 22, 1999 03:37 PM

ok cool. that is what i am going to use, cause that is all i can get int he way of acids. (unless i want to go through pyrotek and get screwed.)

---------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

All times are ET (US)
so far iam thinking there is no way of making this stuff
if any body comes by a way of making this or something close
please help me out

you've asked this many times have you not..since you obviously
didn't get an answer i'll chuck in what i think,
It sounds like a commercial explosive which would contain any
number of common chemical explosives.. could even just be a pre
mixed anfo or simular..
may i ask why you want to know

yeah i think i better stop asking this Q so much
sorry if i mad anyone mad
i just though no one was reading it

no you can always ask me a Q

i seen photos that it blow out an old oak tree to so smal i wanted
to attemp to make it and try it out myself
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Distiller</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paul</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td><strong>Fjp92</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
</tbody>
</table>

**Paul**

posted October 04, 1999 12:31 AM

I need some ideas on how to make an improvised distilling apparatus for making HNO3.

**Fjp92**

posted October 24, 1999 05:34 AM

Some thing that i have thought of for a wile is using alminum. Al metal is made passive by nitric acid and there fore nitric acid is not corrosive on it. How ever H2SO4 is corrosive on it. So say you have a pyrex flask and some how you can make the top part of the distiller of Al pipe so that the H2SO4 makes contact only with the glass flask and not the Al you might be able to make HNO3.

the biggest problem sould be seeling of conections. You might use Al foil to turn around it and then turning masking tape around is (Remember, no glue no plastic or any thing like that on connections)

I am working on one But i dont have time to finish it. Im bussy with exams and shit
some time when i am finish ill post some results

Al IS made passive because of an oxide lair that forms on it. Al is actualy used to make containers for HNO3
Hey, I found this kool site that has a free catalog that has fuse, chemicals, glassware, acids u guys are looking for, and other kool shit. And the stuff is pretty cheap.

Just go to: http://jump.to.pyrotech, or http://all.at/pyrotech

I got the catalog, and it has a lot of awesome stuff that we're always trying to make. Plus they don't have any shipping restrictions.
### Topic: can someone fuckin' help me???

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>darcey</strong></td>
<td>i was just wondering if you could subtitute toluene for nitromethane in the ammonium nitrate/homemade C-4 explosive?? Nirtomethane is a little hard to come by by this toluene shit it every where. Would it work?? a chemist frined of mine said that it would not likley work but im not sure.</td>
</tr>
<tr>
<td><strong>dlwdaw</strong></td>
<td>just fuckin wait, you laready asked this. it usually takes around 1 day sometimes less sometimes more.</td>
</tr>
<tr>
<td><strong>Blaze</strong></td>
<td>You would probably end up with &quot;plastic ANFO&quot; therefor hard to detonate and less powerful.</td>
</tr>
</tbody>
</table>
megalomania
Administrator
posted October 22, 1999 02:14 AM

Yes, toluene will work, but, no, it will not be as powerful as nitromethane. Nitromethane is the chemical of choice because it will make the most powerful explosion. Virtually any flammable organic liquid can be used.

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dlw daw
Frequent Poster
posted October 22, 1999 03:37 PM

hey megalomania.
what fuels (besides hydrazine and nitromethane) would be the best to use with AN. what would make it most powerful?

-------------

dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

---

megalomania
Administrator
posted October 22, 1999 04:00 PM

Besides those I really could not say as I don't remember, I thought I had a reference around here somewhere...

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---

darce y
Frequent Poster
posted October 24, 1999 08:31 PM

my sorry if i seemed pushy before when i posted this but my computer at home has turned it self insideout and fucked it self up the arse so the only was i can acess this fourm is from a friend's computer. Sometimes i can only use this computer once a week so which is really shitty when you post a topic when you need an answer for the weekend and you can't get a reply. but who gives a fuck??

what my question is, if i mix pure tolurine with 20% nitromethane/model airplane fuel would this work?? tolurine is pretty volatile shit and if i mixed it i would have a hell volatile liquid. would this work??

second question.
i need to blow in two sets of doors, one glass with aluminium
frames and the other with steel frames. I was thinking of using two half kilo ANNM shaped charges around the outside door to blow them in. This is why I need to know if the toluene/20% nitromethane mix would work. Having never let off this shit (I have only ever dabbled in ANFO) would this charge(s) be enough to two doors with about a 2 metre gap in between?

Also how hard do you think the toluene/20% nitromethane Ammonium Nitrate explosive?

thanks
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: sorry about that.......</th>
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</thead>
<tbody>
<tr>
<td>darcey</td>
<td>posted October 24, 1999 10:29 PM</td>
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</tbody>
</table>

my sorry if i seemed pushy before when i posted this but my computer at home has turned it self insideout and fucked it self up the arse so the only was i can acess this forum is from a friend's computer. Sometimes i can only use this computer once a week so which is really shitty when you post a topic when you need an answer for the weekend and you can't get a reply. but who gives a fuck?? what my question is, if i mix pure toluine with 20% nitromethane/model airplane fuel would this work?? toluine is pretty volatile shit and if i mixed it i would have a hell volatile liquid. would this work??

second question.
i need to blow in two sets of doors, one glass with aluminium frames and the other with steel frames. i was thinking of using two half kilo ANNM shaped charges around the outside door to blow them in. This is why i need to know if the toluine/20% nitromethane mix would work. having never let off this shit (i have only ever dabbled in ANFO) would this charge(s) be enough to two doors with about a 2 metre gap in between?

also how hard do you think the toluine/20% nitromethane Ammonium Nitrate explosive?

thanks
Ammonium Nitrate - The Explosives and Weapons Forum

Ho ju
Frequent Poster

posted October 14, 1999 06:19 PM

When Ammonium nitrate is called for what type do you use. you know when a fertilizer says ?-?-? (the three numbers) what three numbers are they? Also can you use Ammonium nitrate in the vitamin c gun powder

-------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Dr-D
Frequent Poster

posted October 14, 1999 10:07 PM

Those with the 3 numbers refer to phosphorus, nitrates, and something else if I remeber correctly. Those are mixes that you find at the common store. Those at the most will have 5% ammonious nitrate in them-- they are useless.

To get ammonium nitrate some people have said they can get it in instant cold packs, but I don't know how cheap that is. You can get the pure stuff at farm/agricultural/feed stores in 50lb bags for ~$15 I've heard. You will then need to wash it, search the board for how to do that, megalomania told how to do it.

For the Vitamen C gunpowder it stated that you could use AN in it. Bascily you can use any nitrate or perchlorate/chlorate oxidizer.

I am going to try and make a test batch of that with the pill form of VitC and see how well that does, but I belive im out of oxidizers 😐 oh well, time to work on making that electrolosys cell 😊
**Paul**  
A New Voice

I believe pure AN #’s are 34-0-0  
correct me if I’m wrong…

**Nick**  
Frequent Poster

any one with knowledge on any explosives i can make with  
ascorbic acid { vit c}

i have a shit load of the stuff

**Nick**  
Frequent Poster

my problem is getting potassium nitrate, i have not made any  
vitamin c gunpowder yet but i think that this kind of mix is  
ignitable by flame, so how would i light a mix if i used AN in it.  
Or used  
any nitrate or perchlorate/chlorate oxidizer. Also where would i  
find these, What i want to know is  
is there any chemical i can buy at the hardwear store to mix with  
my vitamin c to make vcgp??

**Ve He MT**  
Frequent Poster

The ascorbic acid/oxidizer explosive is a low explosive. Otherwise  
it wouldnt have very good ballistic properties = ]

It is indeed ignited by flame, and is fairly sensitive to the flame  
just aswell. Pure ascorbic acid is needed since the caplet form  
has too many additives (I’ve tried).

**megalomania**  
Administrator

Pure ammonium nitrate does have the number 34-0-0

The numbers stand for content of  
nitrogen-phosphorus-potassium

---------------------

Visit Megalomania's Explosives and Stuff at  
http://surf.to/megalomania
Alright, thanks mega. If i can't find 34-0-0 is there any other good numbers to look for?

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Dr-D
Frequent Poster

posted October 21, 1999 06:39 PM

uh, 34-0-0 is pure, then something like 20-5-5 is weaker. not too hard to figure out.
I doubt you'll find any of the good stuff in wallmart/etc. in fact you won't. maybe a nursery. But farm supply stores sell it pure.

Ho ju
Frequent Poster

posted October 22, 1999 03:36 PM

where can you get KNO3? i have looked everywhere. is it used as a fertilizer or just to burn stumps and shit? i ask for salt peter ant potasium nitrate and i get nothing.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

megalomania
Administrator

posted October 22, 1999 03:58 PM

You'll just have to get lucky at the right store. I don't suppose many farm type stores sell much fertilizer now, but I do not garden, so I can't say for sure. You will need to look at nurseries, co-ops, that sort of place. Your local hardware store will probably NOT have pure chemicals. They deal in convenience for clueless customers, that means they carry premixes, blends, and speciality products. The small town hardware store, the nursery that deals "only" with plants always seem to have the great find. Such has been my observation from my great chemical search (which I have misplaced, this why I have not posted any data).

-------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Dr-D
Frequent Poster

posted October 22, 1999 05:13 PM

I get postassium nitrate (saltpeter) at the local grocery store. (Dillons chain) Go to the pharmacy section where rubbing alcohol/etc are at and look for it. I bought a 12oz bottle of sulfur there for $3 (lasts a long time) and a 4oz bottle of saltpeter for about 2.80. It went up in price and down in the amount the sell (used to be $0.80 for 6oz) 😐 4oz isn't enough to do jack shit with. that's why i'm looking for alternative oxidizers.

*Igenx*
Frequent Poster

posted October 22, 1999 06:19 PM

Sodium nitrate is readily available. Although it isn't as powerful an oxidizer, it is cheap (about $4 for 5 lbs) and fairly common. Walmart does not have a large enough gardening section, but any store with a decent gardening section will have it. I find it in yellow and red bags labeled 'Nitrate of Soda'.

poison
Frequent Poster

posted October 22, 1999 06:26 PM

Your might already know this but for salt peter you can buy it at ace. Its called "Stump remover" it cost about $5.50 per pound and its almost althey way pure good enough for any thing as is or can be filtered with hot water thrue a coffie filter or a shirt and just boil down the watter and that is left is pure potassium nitrate. I hope this helps.

-Poison

rjche
unregistered

posted October 24, 1999 09:09 AM

I believe if you use anfo you would get a non corrosive byproduct good for gun propellant.

anfo prilled is about 95% pure. Few folks bother to pollute it now since it was found that doing that with any compound that did not poison plants did not significantly reduce its explosive abilities.

The formula for pure NH4NO3 would be

10 parts by wt NH4NO3 added to 1 part by wt of C6H8O6 (vit c, ascorbic acid).

For 95% anf that would be 10.5 anf + 1 vit c

anf can be purified by dissolving and recrystalizing it from saturated solution, but the 5% pollution in ordinary fertilizer would not detract much and I do not believe it is polluted with a metallic halide, but could be. If so that could cause it to rust metals, and would need to be removed.
speaking of anfo, does the "oil" that is added to the ammonium nitrate make the ammonium nitrate less stable? so it can be detonated easier? or does the oil do something else?

--------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

--------
dlw daw
Frequent Poster

yes it makes it less stable, which does not seem to make it dangerous because ANFO seems to be the hardest thing to detonate that actually can detonate. before I knew of HMTD I put a huge pipebomb in some ANFO and it did not detonate 😂

--------------------
dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

--------
Enigma
A New Voice

If constructed right, plain old gun powder WILL detonate AN.

--------
Ho ju
Frequent Poster

But AP can detonate ANFO? If i used ammonium nitrate and kerosene? the response i read above this one on the thread so so many grams of ap for so many grams of ammonium nitrate. what type of oil was used for that ratio? if any oil at al. How many grams of AP would be needed to detonate say a gallon milk jug filled half way with kerosene and the other half with ammonium nitrate? and while on the subject how powerful would that be?

--------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
whoops wrong thread. (in reference to the grams of AP to detonate ammonium nitrate.) my bad.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!
**Topic:** Im on a quest for knowledge.

<table>
<thead>
<tr>
<th>Author</th>
<th>Post</th>
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<tbody>
<tr>
<td><strong>Lorduss</strong></td>
<td>posted Oct 25, 1999 05:35 AM</td>
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<tr>
<td>A New Voice</td>
<td></td>
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<tr>
<td></td>
<td>im on a quest for knowledge about any thing discussed in this forum. im suprised at some of the things ive found within some files on the net and on this forum. ive decided to compile a online publication simler to the Terrorist handbook. but Logical and Realistic. Only using stuff i know works. or ideas like the Personal APC bobcat ( my favorite ). please send me any info you can on explosives and such. im most interested in stuff like Vehicles. i well be adding my own as well. when you e-mail them please state weather or not you have personaly tried, seen or know it works. Thank you, please send all to <a href="mailto:makeapipe@hotmail.com">makeapipe@hotmail.com</a></td>
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<tr>
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<td>IP: Logged</td>
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<tr>
<td><strong>Ho ju</strong></td>
<td>posted Oct 25, 1999 03:42 PM</td>
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<tr>
<td>Frequent Poster</td>
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<td></td>
<td>i do not think a bobcat could be an APC. but it wold be cool to hitch a ride on one.</td>
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<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
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<td><strong>Lorduss</strong></td>
<td>posted Oct 25, 1999 06:17 PM</td>
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<tr>
<td>A New Voice</td>
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<td></td>
<td>a bobcat thats been modified would work well. take the aaverage bobcat chassi and make it twice as long and twice as wide. add suspension and build the rest from scratch it would be pretty badass for a mobel rocket launcher plantform.</td>
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i do nto know the tiny ass wheel base still is probly the main limiting factor. you would have to get around that some way.

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Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: AP putty</th>
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<tbody>
<tr>
<td><strong>sharky</strong></td>
<td>posted August 17, 1999 10:09 PM</td>
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<tr>
<td>Frequent Poster</td>
<td></td>
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<tr>
<td></td>
<td><strong>Is AP putty less sensitive than just plain AP crystals?</strong></td>
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<td></td>
<td>Also, do you think a small matchbox full of AP would have enough</td>
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<td></td>
<td>of a shock to detonate ANFO or picric acid?</td>
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<td></td>
<td>thanks</td>
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<tr>
<td></td>
<td>sharky</td>
</tr>
<tr>
<td></td>
<td>IP: <strong>Logged</strong></td>
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<tr>
<td><strong>poison</strong></td>
<td>posted August 18, 1999 01:14 AM</td>
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<tr>
<td>Frequent Poster</td>
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<td></td>
<td><strong>The answer is YES to both questions.</strong></td>
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<td>-pois</td>
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<td>IP: <strong>Logged</strong></td>
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<tr>
<td><strong>BioHaz</strong></td>
<td>posted August 18, 1999 01:20 AM</td>
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<tr>
<td>unregistered</td>
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<td></td>
<td><strong>Where would I go about getting or creating Iodine chrys isals to</strong></td>
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<td></td>
<td><strong>make Ammonium triiodide crystals (ammonia + iodine chrys isals)</strong></td>
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<td></td>
<td>Thanks.</td>
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<td>IP: <strong>Logged</strong></td>
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<tr>
<td><strong>savage</strong></td>
<td>posted August 18, 1999 01:22 AM</td>
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<tr>
<td>A New Voice</td>
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<tr>
<td></td>
<td><strong>I think you might find AP putty more sensitive, reason being - all those</strong></td>
</tr>
<tr>
<td></td>
<td><strong>crystal stuck on the outside rubbing up on things with nowhere to go. But</strong></td>
</tr>
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<td></td>
<td><strong>probably still safer than trying to compress it into a container.</strong></td>
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<td></td>
<td><strong>Desensitise it by coating it in furthur coats of nitrocellulose until</strong></td>
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<td></td>
<td><strong>the surface is smooth.</strong></td>
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<tr>
<td>Saiyan Knight</td>
<td>August 18, 1999 11:46 AM</td>
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<td>megalomania</td>
<td>August 18, 1999 05:03 PM</td>
</tr>
<tr>
<td>savage</td>
<td>August 20, 1999 12:53 AM</td>
</tr>
</tbody>
</table>

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)
About the ANFO, I've never had much success with AP detonating ANFO. I tried 5 grams of AP putty for 50 grams of ANFO tightly packed and buried about 10 inches under the ground and it didn't work. Then I tried mixing 5% HMTD with the ANFO and then using 5 grams of HMTD putty and it worked. I got a crater in my yard about 2 feet wide and a foot and a half deep. Dirt went flying all over the neighbors roofs. I guess HMTD is more brisant than AP? What other explosives besides TNT, nitroglycerin, and EGDN (I that's how its spelled) can be added to Ammonium Nitrate to make it cap sensitive? I know that you can add Aluminum powder but I can't find that anywhere besides like Skylighter. Some places I've read say for ANFO, the AN should be ground up, others say it shouldn't, that it makes it less sensitive. Should it be? And does the 5-6% FO make it more sensitive, or just make it less hygroscopic (or however thats spelled) Again, thanks for the help on my dumb questions.

Thanks for all your answers...
I have a few more questions....
Would Bullseye be easier to detonate than ANFO?
Also, in the ap putty, does the nitrocellulose actually detonate or is it only the AP?

Zanx, the more dense and tightly packed ANFO is, the harder it is to detonate. This is probably why it didn't work. The prills or powdered ANFO (which ever method you used) must be loose in the charge container for them to sucessfully detonate. When ANFO is used correctly, it can explode all the way up to 15,000 fps. Also a good sensitizer for ammonium nitrate is nitromethane. By combining ammonium nitrate with nitromethane in a ratio to 430 grams ammonium nitrate to 80mL nitromethane will create an explosive mixture more powerful than TNT. This explosive is sensitive to a #6 blasting cap (a blasting cap containing 1 gram of primary explosive). But I recommend a #8, or even better a compound blasting cap to get better performance out of the explosive. By mixing 20 grams of aluminum powder before the nitromethane is added would increase the power, but is not required. Also by adding bull's eye double based smokeless propellant or any other double based smokeless propellant with a high nitroglycerine content to ANFO in 5-10% by weight quantities, you can make it cap sensitive. And the main reason for the fuel oil in ANFO is to retain the moisture that ammonium nitrate pulls from the air. It also increases the sensitivity too, but not much.
Sharky, bull's eye is way easier to detonate than ANFO because of the nitroglycerine content. And in AP putty the nitrocellulose will not really detonate because of the low nitrogen content of the nitrocellulose, but the nitroglycerine may detonate.

I think you'll find #8 detonators are compound caps. containing a base of .45 or .95 (forget) grams of PETN initiated with a lead stphynate/lead azide/aluminium composition. Also, the fuel oil in ANFO increases sensitivity 100 fold..... trying to detonate ANFO without it is like trying to make blackpowder without charcoal.

That is true about some #8 detonators, but they also make straight #8 detonators that contain only primary explosive (lead azide, lead stphynate). The fuel oil in ANFO does not increase the sensitivity of ammonium nitrate alot. Ammonium nitrate can be detonated alone.

you can buy Al. powder at www.pyrotek.org www.netins.net/showcase/iowapyrosup http://home.if.rmci.net/firefox1 http://www.fishersci.com/
fisher science has everything, they have hydrazine, iodine crystals, etc.

> >> signature<< <<
this is the cops give me all your ...ahem.. books on making, ahem.. bombs.
:-)
anf (fertilizer grade an, prilled) can be set off without other explosives if you use a gas explosion to initiate it.

A sure fire one is to put the an into a tank, and pressurize the tank with propane to 100 psig then add pure Oxygen (welding) till the pressure goes on up to 300 psig.

You need a glow plug in the tank to set it off. use the small model airplane types.

A 14 oz propane cylinder full of an with this gas mix in it will fluff up dirt to the surface when buried about 4 ft deep.

to make anfo very sensitive use only 1% fuel, and of a powder type like sulfur, wax, etc that will not soak into the prills. This causes a surface reaction that then takes the rest of it off.

See Cooks book on Hi explosives for lots of data on an expl. fine ground an fertilizer with 1% parafin wax added and well mixed, or any other wax, especially those that come as powders, and compressed to density of 1, will go from #6 cap. U can use mothballs as sensitizer also but use the 1% concentration, and fine powder, and no more packed than density .8 to 1.0.
its cause you live in california
all the mothballs I have seen are 99.99% napthalene.
I have an old box of 100% napthalene.
they are called old fashioned moth balls by Enov or something like
that.
and I have only seen paradichlorobenzene in moth crystals.

-------------
dlwdaw
"... always look on the positive side of things, blow things up not
down"
-- Ragnar Benson

Then california sucks more than ever. Have you recently seen
napthalene mothballs for sale where your at? Or are you going by
what you remember being available? I haven't seen napthalene in
years. Maybe because of prop. 65.

-------------
"The knowledge that they fear is a weapon to be used against
them." www.50megs.com/nbk2000

The good old napthlene moth balls are still around. At the Dillons
chain of grocery stores they sell 2 kinds, both made my Enox. The
parabenzene-whatever ones and then the "Old Fashioned" ones
which contain the napthlene.

Btw, I bougth a box but need ideas for using it all up. I thought
about making a napthlene charge to make a fire ball but I dont
see how this works unless it throws it in the air like a dust
explosion... (can BP be used or does it have to be Nitrocellouse?)

I saw a show on the discovery channel about special effects and
when they made fireballs for explosions, they had the napthlene
flakes mixed in with BP. But I would think that smokeless would
work also since the idea is to heat the nap to it's ignition point and
blow it into a cloud so it can burn.
I bought a box a few weeks ago. 
it was at a hardware store and every single grocery store I have 
been at since i was born 😊
for real here in VA they are everywhere.
and I saw that show too I think. the guy mixed som BP and 
naphthalene in a huge plastic bag.
what is prop 55?
and I saw some at CVS.
and safeway
and rite aid.
and mine were made by enox

-------------------
dlwdaw

"... always look on the positive side of things, blow things up not 
down"

-- Ragnar Benson

---

Dr-D

Frequent Poster

Intersting, I wonder how it gets throw into the air... The 
blackpowder I have made before burned very slowly and melted 
through any container, producing white hot molten slag most of 
the time.

I wonder if there are any other uses of naphthalene?

---

dlwdaw

Frequent Poster

yes, naphthalene makes WONDERFUL moth repellant. 😊

but what you do is mix 70/30 BP/naphthalene 
50/50 BP/Napthalene 
then 70/30 naphthalene/BP

poke a hole into a tube insert a quite long fuse. 
press plain BP into the tube sealed at one end then putthe 70/30 
BP/N in the tube. press it hard. 
now put the 50/50 mix. 
press it hard. 
now the 70/30 N/BP
now press in alot of plain naphthalene. 
this will ensure ignition. 
use equal amounts of 
BP 70/30 BP/N
50/50
and 70/30 N/BP
then put alot of N in the tube.
this SHOULD work but I havent tried
--------------
dlwdaa

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

Well there is the difference between the east coast and the west coast😊
I would gladly exchange some of the stupid naphthalene we have over here in the east for some of that precious PDCB (p-dichlorobenzene) you have over there in the west. I am suprised California even has chemicals at all, the little PDCB that I found says "evil in California", or something to that effect😊
The only PDCB in the east is in toilet bowl fragrance. It is artifically scented, not good for chemical work. This knowledge comes from my survey. I made one lonely discovery, only the Phar-Mor chain of stores had PDCB for sale as mothballs.
PDCB is important to me because it is a source of aromatic chemicals, namely I can make benzene from it. It is not useful or handy except in an improvisional chemistry way. The only other organic chemical that is closley related to benzene is toluene, and I know it seems to be drying up. PDCB is very important to me now, I thought it was drying up as well, now I know its on the rise, heh heh.
Theoretically, you can do a Hunsdiecker reaction on PDCB dissolved in ether. A Hunsdiecker reaction simply adds magnesium metal to the solution (being absolutely dry of course). The magnesium inserts itself between the carbons of the benzene ring and the chlorines. Adding water to this new organo magnesium will cause those chlorines to fly off to a better place with the magnesium, this leaves those poor carbons with no partners, so they get hydrogens as a booby prize. This then makes benzene! Everybody always wants to know how to make benzene from otc stuff, now you know. Of course magnesium metal isn't all that easy to come by, which is why I have lots of Epsom salts (magnesium sulfate) in my electrolysis gadget. The magnesium sulfate becomes magnesium hydroxide, I add hydrochloric acid from the hardware store to make magnesium chloride, magnesium can be electrolyzed to make magnesium metal, the magnesium metal is added to those mothballs, and benzene is my reward. All of these chemicals are grocery/hardware store bought, and everything can be done at home. A very important requirement.
What's the point here? Well, I am finally done with the Great Edit on my website, and it's time to shift gears. Shift to what? Namely the chemical synthesis section, it's high time I started to put a little more work into finding out where/how to get some of these chemicals. In short, with benzene you can make aniline, phenol,
halo benzenes, and a host of other simple aromatics, these in turn can be used to make just about any chemical out there – especially those used to make explosives...

------------------
Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania
Dr-D, The reason your BP simply burned fiercely is because it wasn't a very good quality mix. Good quality blackpowder depends mainly on the type of charcoal. Charcoals made from softwoods are the best and the only kind that will make some kind of "explosive" black powder. DO NOT use charcoal used for cooking food! It contains things such as glues and lighter fluid. Even after you get those out (you can) the charcoal is still from a hardwood. Because ideally when your cooking you want a long lasting burn from your charcoal, this is where the hardwoods come in. But with blackpowder you a charcoal that burns FAST. Willow being the most common. High quality charcoal can also be made from dried grass etc.. Charcoal is always of a black colour. If it is grey/white, its been completely burned and is useless to you. Even if you get that done, the proportions for black powder are important, adding too much of anything will make it burn significantly slower. The ideal ratio is 75% KNO3, 15% charcoal and 10% S The black powder needs to go through a series of steps before it becomes useful aswell. First the potassium nitrate, sulfur and charcoal need to have the finest particle size you can get. This can be achieved through the simple yet time consuming mortar and pestle method (don't use a wooden set, use a brass or ceramic mortar and pestle set ). Or the best way is to use a ball mill. However you get it done, what you have is still only green meal, it is still quite useless. It must then be compressed into cakes with or without the aid of a solvent to bind the loose powder. Which is then to be rammed to the density of approximately 1.8g/cc and crumbled into small little chunks. Then what you have is a useful powder. capable of making salutes, and launching powdered naphthalene(god that stuff smells, Heh) to make small fireballs =]

These are the steps the commercial black powder manufacturers use. If a simple propellant with the least amount of labour involved is desired, look at the topic thread under Explosives > Vitamin C GunPowder.
you can buy PDCB here on the east side under the name of "Enoz" or "Enox" moth crystals. and megalomania can you give me a detailed procedure for making benzene from these, and what state do you live in? maybe it is a restricted state like NJ or something.

------------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Zanx
Frequent Poster

What percentage by weight would you add the Naphthalene to the AN? Would it be a good sensitizer, like nitromethane, or would it make an explosive as hard to detonate as ANFO? Like would it become sensitive to a #8 cap? Thankz for any help, cause naphthalene mothballs are easy to find where I am.

Dr-D
Frequent Poster

hmm. Well I'd say using smokeless powder would be better than going through all the trouble of making good BP. I don't have access to hardly any good tools. I have a few amounts of smokeless powder that I am saving for good uses only, ill test out a batch.
Does anyone know of an easy method to get the potassium chlorate from match heads besides scraping it off? Or somewhere that is can be purchased?

PLASTIQUE EXPLOSIVE FROM BLEACH

This explosive is a potassium chlorate explosive. This explosive and explosives of similar composition were used in World War I as the main explosive filler in grenades, land mines, and mortar rounds used by French, German and some other forces involved in that conflict.

These explosives are relatively safe to manufacture. One should strive to make sure these explosives are free of sulfur, sulfides, and picric acid. The presence of these compounds result in mixtures that are or can become highly sensitive and possibly decompose explosively while in storage.

The manufacture of this explosive from bleach is given just as an expedient method. This method of manufacturing potassium chlorate is not economical due to the amount of energy used to boil the solution and cause the 'dissociation' reaction to take place. This procedure does work and yields a relatively pure and sulfide free product.

These explosives are very cap sensitive and require only a #3 cap for initiating detonation. To manufacture potassium chlorate from bleach (5.25% sodium hypochlorite solution) obtain a heat source (hot plate, stove etc.) a battery hydrometer, a large pyrex or enameled steel container (to weigh chemicals), and some potassium chloride (sold as salt substitute). Take one gallon of bleach and place it in the container and begin heating it. While this solution heats, weigh-out 63 g. potassium chloride and add this to the bleach being heated.
Bring this solution to a boil and boil until when checked with a hydrometer, the reading is 1.3 (if a battery hydrometer is used it should read full charge). When the reading is 1.3, take the solution and let it cool in the refrigerator until it is between room temperature and 0 deg. C.

Filter out the crystals that have formed and save them. Boil the solution again until it reads 1.3 on the hydrometer and again cool the solution. Filter out the crystals that are formed and save them. Boil this solution again and cool as before. Filter and save the crystals. Take these crystals that have been saved and mix them with distilled water in the following proportions: 56 g. per 100 ml. distilled water. Heat this solution until it boils and allow it to cool.

Filter the solution and save the crystals that form upon cooling. The process of purification is called fractional crystallization.

These crystals should be relatively pure potassium chlorate.
Powder these to the consistancy of face powder (400 mesh) and heat gently to drive off all moisture.
Melt five parts vaseline and five parts wax. Dissolve this in white gasoline (camp stove gasoline) and pour this liquid on 90 parts potassium chlorate (the crystals from the above operation) in a plastic bowl. Knead this liquid into the potassium chlorate until intimately mixed. Allow all the gasoline to evaporate. Place this explosive in a cool dry place.
Avoid friction and sulfur, sulfides and phosphorous compounds.
This explosive is best molded to the desired shape and density (1.3 g./cc) and dipped in wax to water-proof. These block type charges guarantee the highest detonation velocity. This explosive is really not suited to use in shaped charge applications due to its relatively low detonation velocity. It is comparable to 40% ammonia dynamite and can be considered the same for the sake of charge computation.

If the potassium chlorate is bought and not made, it is put into the manufacture process in the powdering stages preceding the addition of the wax-vaseline mixture. This explosive is bristant and powerful. The addition of 2-3 % aluminum powder increases its blast effect. Detonation velocity is 3300 M/sec.
Has anyone actually tried any of the methods for making KClO3 described in the "Kitchen Improvised Plastic Explosives" found at NBK2000's site? If so, could you tell me which one(s) you tried and how well it/they worked. Thankz

I've never tried the bleach method myself, so I can't say how well it works. But, I have tried several other ways of getting or making chlorate. Bubbling chlorine gas through lye is a pain in the ass and a waste of time. Extracting it from white matches is possible but you get so little for so much effort. The last way I've tried was extracting it from "Solidox" pellets. That worked very well, but it's hard to find them. The salt electrolysis method would be killer. My friend has several battery chargers in his shop, I just need to get some electrodes and give it a try. If you can, that would seem the best way to go.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Electrolysis is so simple and easy once you know how to do it. It's also mind blowing how much chemicals can be prepared from it. I glazed over all the stuff when I first took chemistry, now I have gone back in depth since it has real and valuable uses. I leave the thing running 24/7, and it goes better in winter with in use heaters providing maintenance free evaporation.

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meca,
are you talking about electrolysis in general or about just the electrolysis to produce chlorate.

I tried the chlorate electrolysis, but I didn't have any carbon rods and used these steel things instead (I think they were steel).
I started running it and all this green sludge crap started forming in the water.
Any what this was?

sharky

Well it sounds to me like you made Iron Oxide (rust).
Correct me if I'm wrong.

Lice [4K]

If it's green it's copper. Rust is brown or red. Must have been bronze rods. Chlorine is liberated from salt during electrolysis and combines with the copper to form copper chloride. You can get carbon rods from batteries. Find an old style dry cell. It looks like a giant AA battery with twist knobs on top. But the best (and cheapest) rods are from the welding supply.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Lice [4K]

That's mot always true NBK. I've made rust before and it's been green and blue. Its only red and brown after it dries.

Lice [4K]

mot should be NOT
sharky
Frequent Poster

posted October 12, 1999 04:06 PM

Are carbon rods the only thing that will work?

sharky

Ve He MT
Frequent Poster

posted October 12, 1999 06:07 PM

Yes, I have also made iron oxide through electrolysis and it was green while in the cell and when filtered and dried it then becomes noticeably red (and extremely fine).

Hehe in a completely unrelated subject, today in my city there was a large ammonia spill on a road =]

IP: Logged

Lice [4K]
Frequent Poster

posted October 12, 1999 06:31 PM

Oh ya, well the water at my school is tainted with bacteria. Beat that.

Lice[4K]

IP: Logged

megalomania
Administrator

posted October 15, 1999 11:16 PM

I was referencing to electrolysis in general... The selection of the electrode is very important because you do not want to have the electrode metal reacting in the equation. For example, if you use iron in the electrolysis of salt you will get a ferric (or ferrous I can't keep them straight) chloride. When you use an "inert" electrode (like carbon or platinum, carbon being much cheaper but platinum better) chlorine gas is liberated. In both cases we get sodium hydroxide at the other electrode if there is an ion membrane.

All this terminology can be confusing and hard to keep track of, but rather simple when you see it. My electrolysis setup consists of a 5 gallon plastic bucket, a ceramic flower pot in the middle, either a big ass nail or carbon welding rod as electrodes on either side of the pot, and a small battery charger. That's it in laymen's terms 😊

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IP: Logged
Could someone go over again (yeah i know it is somewhere on this forum but for the life of me i can't find it) how to make potassium chloride using electrolisis? including what materials you need. thanks for you time

-------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Ho ju
Frequent Poster

posted October 17, 1999 01:14 PM

Whoops i mean potassium chlorate

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Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Ho ju
Frequent Poster

posted October 17, 1999 01:14 PM

*I genx*
Frequent Poster

posted October 17, 1999 01:55 PM

I remember reading that lead rods can be used for making potassium chlorate. Is this at all true? I tried this method and I got a ton of a grey- black sponge like material in the process, but I think I used way to large rods for the small size of the jar I used.

*I genx*
Frequent Poster

posted October 17, 1999 01:59 PM

Also, can't sodium chlorate be made from boiling pool chlorine and salt? I read that from one of the books I had on the old 'puter till drive d got wiped by this freak accident this afternoon.
The "Kitchen Improvised Plastic Explosives Vol.1" book on my explosive section has the bleach/salt process. Just go to my site below and all will be revealed.

And use the forum search function, that's what it's for.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

if you look on the first page of this topic you will see that i have already posted the info about making PC with bleach. I have done it and it worked quite well, i had very strong bleach which inturn made more. I mixed it up with vasaline and wax and used a actone proxdie cap to set it off. IT made a very big bang

is potassium chloride easily obtainable? is it sold in all types of stores?

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Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

Potassium Chloride is sold as a diet slat, you should be able to find in health food shops or just a supermarket. Look for diet salt then look what it has in it. Should say Potassium Chloride + flowing agent + some other shit.
wha about the electrolysis method? how does that work?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Is it possible to make just pure Sodium Chlorate from table salt via electrolysis?

I haven't made any yet but I've collected a library on how.

It said use lead peroxide (the red + plates from a car battery for good yield.

The posts on making it with carbon required you to add potassium dichromate to catalyze it.

You can buy pure potassium chloride in fertilizer stores for about 10 cents a pound in 50 pound sacks. It shows only the potassium number in the 3 digit fertilizer code. (there is no code number for chloride)

Try any farm coop store that sells fertilizer.

in my post I'm talking about the electrodes to use for electrolysis. use Lead peroxide plates from a car battery, and space them close enough together to get the full amps that your charger can put out. Also to keep the temp from running away, put a thermostat in the charger line and set it for a temp low enough that you don't boil your solution away. Mega may recall the optimum temp, as I can't find it in my brief search, but I think hotter is better, long as you don't boil it dry.

Carbon rods can be gotten as graphite rods from some OLD welding establishments. They used to use them for gouging holes in metal, but are now out of use. Many shops got caught with boxes of them on the shelves, been there for 40 years, can't sell em, bought hundreds of 12 inch long half inch dia graphite rods for $15, but will use the + car plates if I ever
BTW, KClO3 + 75% Zinc Bis Di Thio Carbamate (farm store zineb fungicide, about $2 per pound in 5 pound bags) in mixture of about a 3.5 wt of KClO3 to 1 wt of zineb makes a brisant expl that is not very friction or impact sensitive, but is very flame sensitive. It puffs off like a primary explosive, when lit. It is fastest when compressed to about 2/3 of its fluff volume. A 22lr hull filled and pushed down 1/3 by a dowel rod makes a violent blasting cap that will touch off hi % dynamites. Of course bigger ones reach weaker stuff.

Dr-D
Frequent Poster

Awesome! I really need to check out farm stores to see what they sell. Nurseries and commercial stores don't have anything useful garden wise that I can find. Im basically looking for a cheap oxidizer. I'll post my results one day when I have found the one to work out best.

wave
Frequent Poster

is there anyway to make sodium chlorate by just using normal house hold salt in the carbon rod and battery charger method?

nbk2000
Frequent Poster

Does anyone bother to read the posts and links? YES! Regular table salt will work. Sodium chloride and potassium chloride are interchangable with adjustments in reactant ratios. No more questions about salt.

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"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
I did read that section on your web site, NBK2000, the Kitchen Improvised Explosives one about electrolysis. That is horribly incorrect and misleading 😞 Not your fault of course, I was reminded by Rjche about that. The temperature at which an electrolysis on this small of a scale is run is insignificant. No need for a thermometer, or coolent water, or things of that nature. The info on NBK's website was obviously obtained from "industrial" scale setups. It is important with that size.

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That's the thing about bookz, the info can be good or bad. I presented it exactly as I got it.

While the cooling maybe unneeded, it wouldn't hurt the reaction. Besides, no one should relic totally on any one source of info. Always try to get as much info from as many different sources as possible to get the whole picture.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Oh, there was more to it than that. Just so everbody knows what I am referring too, it is Chapter 6 of KITCHEN IMPROVISED PLASTIC EXPLOSIVES, VOLUME 1 by Tim Lewis. The book is reprinted on NBK2000's website, he had nothing to do with writing it. The chapter deals with making sodium chlorates via electrolysis.

Problems as I see them:

# 1 "The major part of the manufacture of this explosive from rock salt is the cell reaction where D/C current changes the sodium chloride to chlorate by adding oxygen..."
You don't need just DC current
# 2 "This explosive gas must be vented as sparks or open flame may very well cause a tremendous explosion. This type of process or reaction is called a 'cell' reaction. The cell should be constructed of concrete or stainless steel."
The amount of gas produced is negligible on the home scale, and you certainly DO NOT need a concrete or stainless steel tank!
# 3 "This cell would have to be large enough to allow the brine
to circulate throughout the cell to insure as uniform a
temperature as possible..."
Only if its huge
# 4 "Current density is a very important factor in the speed of
the Nernst equation defines how much you get and how fast,
the more electrons you put in, the more product you get out.
The faster electrons go in, the faster product comes out.
# 5 "This density should be 50 amps per square foot at the
cathode and 30 amps per square foot at the anode. For a 10
amp battery charger power source, this would figure out to be 5
5/16" by 5 5/16" for the cathode. The anode would be 6 15/16"
by 6 5/16". The anode is made of graphite or pressed charcoal
and the cathode is made of steel plate (1/4")."
Blah, blah, blah. Use whatever you got, and use two carbon
rods if possible.
# 6 "These would need to be spaced relatively close together.
This spacing is done with some type of non-conducting material
such as glass rods. This spacing can be used to control the
temperature to some extent. The closer together they are, the
higher the temperature. These can be placed either horizontally
or vertically although vertical placement of the anode and
cathode would probably be the ideal set up as it would allow the
hydrogen to escape more readily. The anode would be placed at
the bottom if placed horizontally in the cell so that the chlorine
released could readily mix with the sodium hydroxide formed at
the cathode above it. As the current passes through, the cell
chlorine is released at the anode and mixes with the sodium
hydroxide formed at the cathode. Hydrogen is released at the
cathode which should bubble out of the brine. This gas is
explosive when mixed with air and proper precautions should be
taken."
Ha, this one is funny. You can just set the electrodes in the
container a few inches apart, no need to use glass rods, they
can just dangle apart from one another. The temperature will
depend on the current, not the spacing... Well he got the
vertical placement right, its just more practical that way. BUT.
Chlorine gas is in no way released in this reaction, the
conversion is quite complete, only water is broken down, the
hydrogen is ever so slowly released.
# 7 "The temperature of the cell should be maintained at 56
deg. C. during the reaction. This can be done by the circulation
of water through the cell in pipes. But the easiest way would be
to get an adjustable thermostatic switch adjusted to shut the
power source off until the cell cools off. This temperature range
could be from 59 deg. C. shut off to a 53 deg. C. start up. An
hour meter would be used on the power source to measure the
amount of time the current passes through the cell."
Woah, talk about overkill, this is supposed to be a simple
procedure, a water glass and a battery with 2 wires, thats all,
unless you plan out starting a factory.
# 8 "A thermostatic valve would be set to open when the brine
electrolyte was heated above approximately 58 deg C..."
Again, straight from the industrial schematics, not for the
battery charger version.
# 9 "...the waste heat could be used relatively easily to heat
either a house or perhaps even a barn or shop..."
With his dreams 1.21 GW battery charger no less?
# 10 "To run the cell, after the cell has been constructed and the
concrete has been sealed and has set and cured for several
weeks, is very simple"
Well, you would think so after all that...
# 11 "rock salt is excellent here"
We agree on that at least 😊
# 12 "...four liters of distilled water...
Any water will do
# 13 "Thirty three grams of muratic acid, which should be
available from a swimming pool supply store is then added to
the liquid in the cell."
Kind of redundant, you get chlorine from the salt
# 14 "Then 7 grams of sodium dichromate and 9 grams of
barium chloride is added."
Only if you need to answer to the accounting department as to
why profits are not as expected...
# 15 "These cables are best made of stainless steel"
Hell no, use any wire.
# 16 "The power is best hooked up remotely to lessen the
chance of explosion"
Lessen the chance? What could be less than 0?

And he said its gets easier after the contraption was built 😄

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p o i s o n
Frequent Poster
posted October 26, 1999 07:32 PM

Im making some sodium chlorate via electrolysis. The rods are
slowly eroding and I want to know how I can seperate the
chlorate from the carbon. Any help on this question will really
help.
-Poison
Chlorate is water soluble, carbon is not. Dissolve, filter, evaporate.

As for the KIPE chlorate process, definitely too complicated. But I do know that (with A/C anyways) you can boil a large pot of water with 2 razor blades and an electrical cord. The water is resistant to current and thus creates heat. Saturated slat water is very conductive so it may not heat up as much.

Fortunately we have the internet for answers now, unlike back in the early 80's when Lewis wrote KIPE v1.0.

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"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

poison
Frequent Poster

posted October 26, 1999 08:24 PM

I thought about that but what about the sodium chloride in the solution is it still in there? Because I don't want to me making salt to.
- Poison

IP: Logged

This topic is 2 pages long: 1 2

All times are ET (US)
Author: darcey
Frequent Poster

Topic: Washing Ammonium nitrate

posted October 24, 1999 08:17 PM

how do you wash Ammonium nitrate without contaminating it with air or water therefore making it useless??

IP: Logged

Author: Apathetic
Frequent Poster

posted October 24, 1999 10:47 PM

On a video I have (Homemade C4 a closer look) the guy uses denatured alcohol. He puts the AN in a container and adds the alcohol and stirs it until the alcohol turns brown and the AN is white. Then he dries the AN in an electric wok.

IP: Logged

Author: Apathetic
Frequent Poster

posted October 24, 1999 10:48 PM

On a video I have (Homemade C4 a closer look) the guy uses denatured alcohol. He puts the AN in a container and adds the alcohol and stirs it until the alcohol turns brown and the AN is white. Then he dries the AN in an electric wok.

IP: Logged

Author: megalomania
Administrator

posted October 25, 1999 04:52 PM

It isn't made useless by air or water. The air contains moisture which makes the ammonium nitrate damp over time, which does not help it as an explosive. You can dry it by cooking in an oven. In the lab we fill a beaker less than half way (best to have it spread out as much as possible), cover it with a watch glass (to keep contaminants from falling in), and heat at 150-300 °F for 1-3 hours. You can use a household oven the same way. Just spread the ammonium nitrate out on a glass pan (like for cakes) and set the oven on to 250 °F for 2-3 hours.

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Ho ju
Frequent Poster

posted October 25, 1999 05:03 PM

Mega. I think you said a while ago that componies are starting to coat (SP?) ammonium nitrate with something to make them less explosive. (the ammonium nitrate in water packs) and you said it took you about 5 minutes to take the coating off. how did you do it?

------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

Dr-D
Frequent Poster

posted October 26, 1999 06:58 PM

Mega didn't say it took 5 mins to make it ready to use, but rather 5 mins to figure out how to thwart the coating. Here's how to was it: (from mega's post)

Since ammonium nitrate is hygroscopic, it is coated with an inert material in prilled form. This material has the added bonus of making ammonium nitrate less explosive. Since the coating is only partially soluable in water, and ammonium nitrate is very soluable, it can be removed for the most part. It is best to crush up the ammonium nitrate prills as much as possible to break the shell and use cold water. It is fortunate that the water gets cold, the solubility of the bad coating increases with higher temperatures, whereas AN is very soluable even in the cold. Stir it well and skim/filter to remove the undissolved coating. Take the AN solution water and boil it down to a slush. Pour this out into a shallow pan or dish, it must be shallow to remove the most moisture quickly. Place this in an oven at a gentle heat, AN will decompose if it is too high, you don't need to boil the water, just drive it off. 100 to 150 °F will do.

Ho ju
Frequent Poster

posted October 26, 1999 10:33 PM

Alright that will work. That makes the ice packs much more valuable. thanks.

------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!
Author: watts  
A New Voice

Topic: some info please

posted October 28, 1999 08:01 PM

Would someone have an idea on where to find kitchen improvised plastic exp. 2 at? thank a mill.

All times are ET (US)
**Author**: nbk2000  
**Topic**: Vitamin C gunpowder  

| nbk2000  
Frequent Poster |  
<table>
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<td><strong>posted October 13, 1999 07:15 AM</strong></td>
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Here's something new for you guys to try. I just whipped up a quick sample to test and it works. The full details are at [http://www.50megs.com/nbk2000/weaponsandtactics/propowder.html](http://www.50megs.com/nbk2000/weaponsandtactics/propowder.html). I'll be adding details from another patent about the same thing at a later date.

What I did was take a small amount of stump remover (potassium nitrate) and added about 1/3 to 1/2 its volume of vitamin C (ascorbic acid). Mixed them well and added a bit of rubbing alcohol to form a paste. It turned brownish purple (expected) while I mashed it well with a large nail inside of a pipe cap. I then spread it out to dry with occasional stirring and mashing.

After it totally dried to a fine powder I wrapped it into a small toilet paper tube and lit the end. The tube flashed instantly like gunpowder. A small pile burned very quick. Only a little smoke was formed compared to black powder and with no stink.

If you use ammonium nitrate instead of potassium and buy the C in bulk, this should cost less than $5 per pound and you youngsters can get the shit you need anywhere.

I'm going to make a larger batch properly measured out with a scale and using purified saltpeter in the next few days and see how that works. Give it a try and post your results here, I will.

-------------

"The knowledge that they fear is a weapon to be used against them.'"  

IP: Logged
This appears to be a very promising find. I will make a few sample batches this afternoon and post the results later. Also on the bottle of my Vitamin C it says the following inactive ingredients are present: Croscarmellose Sodium, Microcrystalline Cellulose, Starch, Stearic acid and Talc.

There is very little of these in each pill though, and some would prove useful as they will provide as a binder. It is relatively pure ascorbic acid for the most part anyway, so there should be no problems with the relatively small amounts of inactive ingredients.

Just so long as you don't get those chewables. Hehe

I bought my C as a pure powder with no fillers or binders. Pills can contain 50% or more of binders, fillers, stabilizers, coatings, etc.

If you have an accurate scale you can weigh out a given weight of tablets, divide that by the number of tablets, multiply that number by the amount of C each pill contains and subtract that from weight of pills to obtain the percentage of C to fillers.

If it works poorly, try adding more C pill powder to compensate for fillers. Otherwise buy the pure powder from a vitamin shop.

The thing I like about this is that the ingredients are totally non-suspectious. Vitamin C a bomb material? No way! Ha, little do they know.

With 1-5% starch added and compress under 5-10 tons of pressure it forms solid shapes like pellets that can be used for caseless ammo. Attach a bullet to a pellet, put a primer in a hole you drill in the end, and coat everything with a citrocellulose lacquer to hold it all together and Voila! a caseless bullet.

This could also be good for making ninja type smoke bombs. Or for anything you would use BP for only without the stink or smoke.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
Ahh, yes, Caseless Ammo is a God send =]

My pills contained 500mg of ascorbic acid, and are 7mm wide, 16mm long and 5.5mm thick. The pill is rounded somewhat over all also. The pills can't weigh more then a gram also(I can very easily be wrong since I do not have a scale accurate enough to check).

If they prove to be too impure I will go and purchase some of the pure ascorbic acid powder. Seems like it will be much cheaper to be in powder form the pills anyways.

Hehe, be=buy

This is great! Black powder burns too slow to have any practical explosive use.

Only problem is the hard to come by oxidizers (for me): The only place I can get potassium nitrate is at Dillons(grocery store) and it costs $3 for 4oz., which is a total rip off. Pure ammonium nitrate can only be bought in bulk at feed stores/etc which is great, but with all the recent bomb threats to the local schools, it would not be wise to buy any for in fear of the FBI taking note of you.

Would sodium chlorate work? The document noted a nitrate compound is used, but does it have to be?

The patent says that chlorates, perchlorates, and permanganates can also be used. You can get AN in instant cold packs at a pharmacy or sports store for a couple dollars a pound. 50 lb sacks from the ag store is the cheapest, but a teenager buying a sack might raise questions. But its only on ton sized purchases that the FBI might check.

This would seem to be best used as a propellant. As an explosive it probably wouldn't be anymore powerful than BP.

------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
ho ly fu ck! if it is that simple why use bp in the first place. i can just see this stuff cropping up around the country and the feds taking note of it. that would suck. but until then we should have fun with this. do you think it would be a good filler for fire works? or salutes? is this powder as sensitive as bp? like to static and flame?

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

I finally got to use a scale to measure out the ideal ratios according to the patent. By weight it's 35% vit C and 65% potassium nitrate. By volume it's 10 parts nitrate and 6 parts vit C. After mixing throughly and grinding to a powder I got a purplish powder.

I took a little powder and put it in a paper tube and twisted the end closed. Lit the end on fire and the tube went flying! Opened up the tube and there was no residue. When I burnt some in the open there was some white slag (pearls) left but no carbon residue. There was some smoke but only a faint odor to the smoke, not stinky like BP.

I'm going to try different ratios to see if I can get a completly slagless mix. Anyone else here try it yet?

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"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
I've tried it. I found some 500 milligram pills that are totally pure ascorbic acid. I mixed 10 grams of finely powdered ascorbic acid with 20 grams potassium nitrate. Then I added a little hot water and mixed it up to a paste and dried it in the sun. After that I ground up small amounts at a time and passed it through a flour sifter. When I burned this stuff it left a lot of white pearls behind. I assume that would be the KNO3. My KNO3 was only technical grade, not pure. I tested the vitamin C gunpowder against some blackpowder I made and it seemed that the blackpowder burned quicker, but the vitamin C gunpowder burned more fiercely, letting off more gas, and with little smell or smoke opposed to the blackpowder. I am going to mix up some more with the 35/65 ratio and see how it works.

You can't have pure vitamin C in pill form. Binders, fillers, etc. I got mine in food grade powder form. I've noticed that the vit C powder burns faster when it's in a granular form rather than powder. Probably because the flame can flash through the air gaps in granules while it has to pass in a flame front from one end to the other in powder form.

When I burned the powder loose, it formed pearls, but if burned confined in a paper tube, no residue at all, except for what little was ejected out the end. Pearls indicate excess nitrate, carbon, excess vitamin C. Ideally your mix will leave nothing behind whatsoever. I'd much rather have excess carbon powder fouling my barrel than rock hard pearls.

nbk is right. As I have tried making it with the pills and it wasn't very spectacular. It did however show how flame sensitive the composition is =]

I am going to go and look for some of that pure ascorbic acid tomorrow. nbk, why did the powder turn purple/brown, and how did you know it would? I made a simple dry mechanical mix. And I don't think I want to waste my time making some of it wet using the pills. And in a recent failed rocket motor using kno3, sucrose. The end plug was shot out, up and through the nose cone with a terribly loud bang, as if it detonated. I plan on looking into the ballistic properties of this powder. As both sugar and vitamin c are quite common. But of course the ascorbic acid is not hygroscopic like the sucrose based propellant.
<table>
<thead>
<tr>
<th>Poster</th>
<th>Date</th>
<th>Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbk2000</td>
<td>October 24, 1999</td>
<td>02:31 PM</td>
<td>The powder turned purple because I ground it wet in a steel pipe cap. The vit C reacts with iron and most other metals to form ascorbates. This is explained in another patent that I haven't posted yet on my site. This is supposed to enhance the performance. To any given amount of saturated vit C solution is added 2-10% rust. This solution is heated to just below boiling and allowed to react until no more gas is generated by the reaction (1+ hours). The solution is then evaporated to dryness in the oven at a low heat. The resulting dry, brown powder is crushed to a fine powder and mixed with the nitrate in the usual proportions. As for the rocket, what may have happened was the mix was not perfect and slag built up and blocked the nozzle, causing pressure to build up inside.</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>October 25, 1999</td>
<td>12:28 PM</td>
<td>Actually, I know what happened to my rocket motor. After every test I conduct a full investigation on the performance of the motor. After making sure there is no propellant left inside the motor, I then proceed to manually saw the casing lengthwise with a rasor saw. I inspect the casing and nozzle etc.. Anyways as to what happened, it simply was me being greedy, trying to steal all the thrust I could by using a smaller nozzle then I normally do. Which in turn caused the violent/spectacular engine explosion =] The test was conducted while I was looking for the best nozzle/internal core dimensions.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>October 25, 1999</td>
<td>03:45 PM</td>
<td>was it an explosion or just a release of hot gasses by the motor. i have never heard of kno3 and sugar exploding just giving off alot of heat and gas. Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>
Ve He MT  
Frequent Poster  
posted October 25, 1999 05:34 PM  

It blew the end plug out of the top of the engine. Had the end plug been in there more securely, it would have surely ripped the casing apart. Everything above the rocket engine was ripped to bits. I know I shouldn't have tested an engine in a rocket, but the rocket was a specially made expendable piece of crap made of scrap wood and tube. The nose cone was ripped to pieces. The reason for the explosion was that it was confined quite a bit and the powder grain had a hollow core going up into about halfway. Any loose KNO3 Sucrose powder ignited will simply give off gas and heat, but properly confined, it will explode. Confinement, Confinement, Confinement was the reason for why it exploded. The powder was milled very fine (not as fine as flour, but almost).

Zanx  
Frequent Poster  
posted October 26, 1999 07:51 AM  

Oops, my bad. I should have known the pills couldn't be pure. On the stupid bottle I got it says that the tablets are 500 mg, and on the "formulation" part, it says, "each tablet contains...ascorbic acid----500 mg" and it doesn't list any other chemicals. Oh well, thankz for telling me. Oh yeah, by the way, VeHeMT, what ratio did you use for your KNO3/sucrose rocket propellant? And was the sugar you used the powdered kind for frosting? Thankz, I haven't had much success with rocket propellants yet.

Ve He MT  
Frequent Poster  
posted October 26, 1999 12:34 PM  

I used granulated sugar. The ratio is 60-65% / 35-40%. Icing sugar (the sugar thats already powdered very finely) contains something like 5% corn starch. Since sugars and starches are almost the same (very similar), you "could" use the icing sugar if you only wanted to use it as a rocket propellant and you didnt have the time or equipment to mill granulated sugar. Though, I have noticed *slightly* slower burning times with the icing sugar.

fart  
unregistered  
posted October 26, 1999 03:32 PM  

I'm tired of posting this thing and getting it wiped out as the editor doesn't like something and says go back, but I go back to a blank screen,

So I'll leave out a lot of tutorial stuff,

AN = prilled ammonium nitrate fertilizer  
Its almost always > 95 % purity.  
NH4 NO3 Formula wt 80  
vitamin c is C6 H8 O6 formula wt 176  
citric acid is C6 H8 O7 formula wt 192  
AN + vit c use 800 wts AN and 1 wt Vit c  
An + Citric use 720 wts AN and 1 citric.

Buy An in 50 lb sacks, along with a sack of triple super phosphate, and a sack of muriate of potash to make liquid fertilizer to spray lawns. Muriate of potash
is pure potassium chloride as used to make chlorate and perchlorate by electrolysis or bleach double decomposition.

AN absorbs moisture, but it could make a non corrosive rifle powder as well as being smokeless...

Potassium nitrates or chlorates or perchlorates leave the chloride salt that rusts steel much. Chlorates would be the most violent with either C or citric. Per less so, but it is violent with metal powders.

nuff said, anyone trying the AN mixes please post the burning speed compared to other oxidizers.

big mistake in above post...
not 1 wt of citric or vit c, but one formula wt.

So AN = 800 wt, and vit c = 176 wt

AN = 720 wt, and citric = 192 wt

BTW citric is available in bulk in bulk food stores as a canning additive to raise the acidity of canned vegetables to keep them from spoiling. It is usually much cheaper than vitamin C, and easier to come by.

Also there is a fertilizer called nitrate of soda which is sodium nitrate which is practically the same as potassium nitrate except it absorbs moisture more easily, and burns in explosives just a tad slower. It also costs between a dime and fifteen cents a pound in 50 or 100 pound sacks.

None of the patents mention citric acid which would lead me to believe that it's not usable for explosive purposes. It may be similar in the number of elements, but the structure is different and that has effects on its chemical reactions.

Have you tried it? Or are you theorizing? I've tried the vitamin C and know that works very well. But if citric would work, then that would be even better. Have you experimented with citric and if so, what kind of product did you get?

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
How well would this work with Ammoumu Nitrate and what purpose does the Rubbing Achole serve? Could I use Actone ensted of Rubbing Achole?

--------------
Great minds are't made at school
They are born!

Have tried neither citric acid nor ascorbic acid. No facilities at this location to do chem experiments. That must wait till I visit the farm. However since there seem to be many who are actively experimenting, and they seem to be unaware that farmers have access to lots of fairly pure bulk chemicals which are useful to them, and their prices are much lower than any other source, I thought I would mention it. BTW if you can find it, the fertilizer name for potassium nitrate is nitrate of potash, just as the sodium nitrate is nitrate of soda, and just as potassium chloride needed to make chlorates and perchlorates is called muriate of potash.

It is possible this patenter tried citric and found it didn't work, but his patent is of a type that is very shakey for I am sure if one researched the literature, (which lazy patent office employees don't do much of these days) you would find back in the post civil war period abundant tests on every known chemical that would oxidize with any known oxidizer, and they probably mentioned it in a patent, for the ones I searched covered just about every imaginable chemical. Probably vitamin c was not available in quantity then nor probably was citric acid. The fact it is now available would not justify a patent. But many patents I see coming out now are patents of old art long ago patented or described in literature.

Anyone doing active testing, please try it, and let us know.

Also you can buy zinc powder in paint stores, where it comes in a can to be added to a can of paint. Runs about 44$ for a 15 pound can, if you don't buy the paint can also. With flowers of sulfur this stuff makes a fairly fierce burn. You don't want to light a teaspoon of it with a match!

As the british say, Ta!
Fjp92
A New Voice

posted October 30, 1999 10:35 AM

If i have a solution of amoniu m nitrate can i boil of the liquied or must it be evapourated. The reson why i ask is because i have heard that it decompose on heating(and it happens at much lower tempertures as other nitrates)

If it can be boiled down, can any container be used or must it be glass?

megalomania
Administrator

posted October 30, 1999 11:22 PM

You can boil the solution down until it begins to get slushy (lots of solid with some water) then you can let it simmer to drive off the rest of the water. As long as the solid is heated, not strongly I mean African desert temperatures, it will eventually dry out all the way. Stronger heating will dry it faster, it begins to decompose around 400 °C I think.

---------------------
Visit Megalomania's Explosives and Stuff at 
http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: If anybody has a minute?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bond007</strong></td>
<td>posted October 30, 1999 02:35 AM</td>
</tr>
</tbody>
</table>
| Frequent Poster | Hello, if anybody has the time and will be willing to give me a few tips on this simple topic i would be very grateful 😊
|                 | THe Problem {or task}: i need thick clouds of red smoke for halloween, i dont have any "Special Chemicals" besides some Hydrochloric Acid, i have been trying to make smoke bombs out of household items {common brands} with no real success
|                 | The Solution ??: if anyone could help me, id really appreciate it Thnx a lot
|                 | ---------ITS FUN TO BLOW SHIT UP{ !KABOOM)
|                 | (*****)
|                 | (^ ^)
|                 | (*)
|                 | ---------------------------
|                 | Kriminal minded….Crime doesn't pay…………….or DOES IT???? ;)

| **Feticidal Fantasy** | posted October 30, 1999 11:35 AM |
| Frequent Poster      | red smoke?.. when i think of red smoke i think of smoke bombs and sky divers. maybe you can buy a red smoke flare at a camping or saftey store? nitric acid makes red smoke.
|                     | ---------------------------
|                     | Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! [http://www.seduced.to/fuckyourmother](http://www.seduced.to/fuckyourmother)

| **Ho ju**           | posted October 30, 1999 03:17 PM |
| Frequent Poster     | yeah but isn't the red smoke that nitric acid makes HIGHLY toxic? it would be a bad thing to have little kiddies dropping dead at your dorr step.

IP: Logged
the 'smoke' nitric acid makes is vapor not smoke, and it is HIGHLY TOXIC.

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

yeah i thought so. what is the vapor? i mean what makes up the vapor...the chemical formula.

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

The red smoke is nitrogen dioxyde NO2
-- Loopkin
If I want to make picric acid from aspirin do I have to use alcohol to get the aspirin from the pills? Can't I just use any other organic solvent like benzene, or maybe gasoline? If I can't, why not?

I don't think any oil based solvent would work very well at all. Besides, how clean is gasoline from the pump? I don't see why you don't use alcohol since it is quite cheap to buy and VERY readily available everywhere. AKA Isopropyl Rubbing Alcohol. Which can be found ANYWHERE. Look in grocery stores and pharmacy's. It is very readily available.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: blowtorch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>d-kay</strong></td>
<td>How cheap are blowtorches</td>
</tr>
<tr>
<td>A New Voice</td>
<td>posted October 30, 1999 01:50 PM</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>dlwdaw</strong></td>
<td>if you mean propane torches with the small tank they are about 10 bucks. maybe more.</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted October 30, 1999 05:30 PM</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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<tr>
<td></td>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
</tr>
<tr>
<td></td>
<td>-- Ragnar Benson</td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td>Naw, there from $25 to $40 US, depends on where you go though. Bernzomatic brand, includes a gas cylinder.</td>
</tr>
<tr>
<td>Administrator</td>
<td>posted October 30, 1999 11:18 PM</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
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<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
<tr>
<td>Username</td>
<td>Time</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
| dlwdaw    | October 31, 1999 12:31 AM | hmm.  
well I guess I better look at the price next time 😐  
I didn't think propane is that expensive (maybe 10 bucks a cylinder [the small ones]) and I can't see how the copper nozzle can cost 15 bucks, *sighh* things are so expensive.  
I had to pay $1 an ounce for citric acid at sears (20oz bottle for $20).  
and at sears KMnO4 is $15 a pound.  
*/sighh*  
------------------  
dlwdaw  
"... always look on the positive side of things, blow things up not down"  
-- Ragnar Benson |
| nbk2000   | October 31, 1999 04:31 AM | Doesn't it seem silly to be asking in an explosives forum a question about the cost of a propane torch? It's like asking how much a gallon of gas costs. Call around to your local hardware stores. We have people here from all over the world so the prices quoted probably aren't anything like where you are. Which you didn't mention where. Show some initiative.  
------------------  
"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000) |
| Ho ju     | October 31, 1999 11:53 AM | dlwdaw you bount KMnO4 at sears? where in the hell do you live?  
------------------  
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!! |
Ho ju
Frequent Poster

posted October 31, 1999 01:59 PM

Ho ju where in the hell do you live?
I live in Arlington, Virginia, USA.
I went to sears.
said 'do you have a water softner section?'
strangely they did, I went there and found KMnO4 for about
$5/6oz which adds up to about $15 a pound
it was labeled 'potassium permanganate'
and in case you want to know, the citric acid is right next to the
KMnO4, it is some kind of resin cleaner.
it is in a huge container that is $20

-------------
dlw daw

"... always look on the positive side of things, blow things up
not down"

-- Ragnar Benson

Ho ju
Frequent Poster

posted October 31, 1999 04:25 PM

i live a little north of albany ny, about 30 north. I have got to go
check it out sometime than thanks. and sorry about shouting.

-------------
Knowledge is power, power leads to corruption, corruption is a
crime, crime doesn't pay. So if you know to much you will go
broke!!

dlw daw
Frequent Poster

posted October 31, 1999 09:43 PM

its OK, i have been yelled at far worse than that at rec.pyro
it really wasnt shouting though.
THIS IS SHOUTING

-------------
dlw daw

"... always look on the positive side of things, blow things up
not down"

-- Ragnar Benson
Ho ju
Frequent Poster

posted October 31, 1999 10:34 PM

😊 alright.

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

Dr-D
Frequent Poster

posted November 01, 1999 02:47 PM

In a quick summary, what all can you do with Kpergamantent? anything special besides using it as an oxidizer?

Ho ju
Frequent Poster

posted November 01, 1999 03:29 PM

i think i read this in an "updated" version of the anarchist cookbook (found it somewhere on the web) and it said gas + KMnO4 explodes. Is this true?

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

Paul
A New Voice

posted November 01, 1999 03:34 PM

It makes easy flash powder with Al and S without have to have fine Al

Another cool thing to do is place a drop of glycerin on the KMnO4.
you can put some KMnO4 inside a teabag and hang it in your toilet,

it will give you a nice purple toilet water for a while

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

erm.. I meant like pyro related 😊
Is it just me or did somewhere i read that it could be used to make an explosive mixture?

---

yeah like is aid i think gas and kmno4 will explode. what does glycerin and kmno4 do?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

Ignite and burn.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
Ve He MT  
Frequent Poster

potassium permanganate is an oxidizer. It is somewhat less stable in a few aspects, but nothing to worry about if proper care and respect is given (like all potentially explosive/hazardous materials should be). You can make a fairly nice flash powder with it, most any fine metal dust (magnesium and aluminum are most common) and if wanted for salutes sulfur.

Ho ju  
Frequent Poster

Cool thanks

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: perchlorates and chlorates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fjp92</td>
<td>posted October 31, 1999 03:29 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Image]</td>
</tr>
<tr>
<td></td>
<td>Here is a cool page to check out. Spesialy the people who needed info on perchlorates and chlorates <a href="http://huizen.dds.nl/~wfvisser/indexEN.html">http://huizen.dds.nl/~wfvisser/indexEN.html</a></td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>posted October 31, 1999 08:40 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Image]</td>
</tr>
<tr>
<td></td>
<td>This site has already been posted, and he and a whole bunch of other ppl made an even more detailed page found here: <a href="http://users.foxvalley.net/~chemengr/kclo4a.html">http://users.foxvalley.net/~chemengr/kclo4a.html</a> Which has also already been posted on the site.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted November 01, 1999 03:33 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Image]</td>
</tr>
</tbody>
</table>
|              | i looked on both of thoughs pages and found REALLY helpfull info. Can someone tell me if this setup will work. Take a glass jar and suspend a .7mm thick piece of pencil "lead" inside a steel spring (so the spring's rings are coiling around it, say like a 1 inch in diameter spring.) in the jar. the jar is filled with a solution of salt water. and hook up a lantern battery to the graphite and stell spring.  
- I know this is confusing but i will be damned if i can explain it better. Sorry.  
-------------  
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! |
|              | IP: Logged                           |
Ve He MT  
Frequent Poster  
posted November 01, 1999 09:06 PM  

Just use two graphite rods. The spring will turn to dust and rust in no time. Look for an AC adapter with an output of 6vDC. Make sure it is of a relatively high amperage.

Ho ju  
Frequent Poster  
posted November 02, 1999 06:13 AM  

should i just use two pieces of pencil lead? i have no access to the big graphite rods that are found in welding shops.

-----------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

dlwdaw  
Frequent Poster  
posted November 02, 1999 08:11 AM  

Go to a welding shop. Look for an oxygen refill place. I asked my dad to get me some and he went to a small little store called Roberts Oxygen and got them.

-----------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
A little bit about this page and its author.

Disclaimer

Read the disclaimer. If you do not agree with it or do not wish to read it, do not read any further.
Things you need to know to get started in this amazing hobby. Finding more info, Acquiring materials, basic safety, mixing techniques and more.

Chemicals

A description of several chemicals used in pyrotechnics and instructions on how to make or get them other than at a pyro supplier. Special attention has been paid to the preparation of chlorates and perchlorates.

Tools

Instructions on how to build some usefull tools, such as a ball mill and rocket tooling.

Formulae

A collection of over 300 pyrotechnic compositions.

Device components

Instructions on making some components of pyrotechnic devices, such as fuse, stars, tubes, and black powder.

Finished devices

Instructions on making some pyrotechnic devices, such as rockets, shells, fountains and starmines.

Links

Links to a number of my favourite pyrotechnics related websites.

Stay green
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: confused</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>i'm a bit confused. In the recent post about washing ammonium nitrate i asked how you would take off the protective layer of whatever it is, off fertilizer grade AN. some people wrote in and i got two different answers about drying the AN. One person said that it was to be dried at a low temp (because it decomposes) and another said that he leaves it in an oven for 3 hours at a high temp. Which it right??</td>
</tr>
<tr>
<td>Ho ju</td>
<td>i believe a long time at low temp. mega said in another post ammonium nitrate decomposes at 400 celcius so your oven will not over do it. Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td>nbk2000</td>
<td>I've dried mine in the oven at 300F and the AN was just fine. I've also decomposed it on purpose to make nitrous oxide at about 450F so you have plenty of leeway to dry it without it breaking down. &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
</tbody>
</table>
Actually I should not have just pulled that number from memory, I was also confusing by my reference to Celsius (that I use in the lab) and to Farenheit (which I use on my American oven). Ammonium nitrate decomposes at 210 °C which is more than twice the boiling point of water at 212 °F. All you need to do is heat it over the boiling point of water. Even then, all you need to do is drive off water, any temp above room temp will do (up to 210 of course), it just depends on how long you want this to take.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

All times are ET (US)
well i dont know if any body post it or not but if someone has i didnt find it

well i am wanting to make nitric acid but i read a lot of ways of making it and ever way is differnt. and i dont konw what is the right way of making it if anybody know of a easy way of making please post it up thanks for the help
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: carbon rods</th>
</tr>
</thead>
</table>
| **dlw daw**
Frequent Poster | ![Posted October 24, 1999 06:49 PM](Posted)  
I want to make some KCLO4 and KCLO3  
where can I get carbon rods??  
thanks  
------------------------  
-dlw daw  
"... always look on the positive side of things, blow things up not down"  
-- Ragnar Benson |

| **Dr-D**
Frequent Poster | ![Posted October 24, 1999 07:49 PM](Posted)  
That question has already been answered.  
They are at welders shops. Search the forum. |

| **dlw daw**
Frequent Poster | ![Posted October 24, 1999 08:05 PM](Posted)  
I forgot to mention I am a lot of miles away from a welders shop.  
so it would be hard for me to consider being on the road for 2 hours to get a measley carbon rod I spent less for than the gas I used to get up and back.  
any other sources?  
a person sen me a URL but I mean like someplace I can drive to, to get them.  
I dont like ordering by mail.  
------------------------  
-dlw daw  
"... always look on the positive side of things, blow things up not down"  
-- Ragnar Benson |
there is corcon rods insite baterys
1.5v can be opend and the rods can be cleand.
Sory for shit spelling.

Fjp is correct. To clear things up though, the carbon rods can be found inside AAA through to D cells. These are recommended (AAA - D) since they are most commonly available. You would most likely want to use the carbon rods from D cells. In the large 6 volt lantern batteries, I am very sure that there are 4 large carbon rods (although nowhere near the 12" lengths available at the welding shop). The black stuff inside the batteries contains a certain amount of manganese dioxide, which when dissolved in hydrogen peroxide, will form pure oxygen. So it may be wise to save the messy black material.

how would I take the batterys apart?

-------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Mayhaps a pencil would be a better source eh? Graphite is carbon...

-------------------

Visis Megalomania's Explosives and Stuff at http://surf.to/megalomania

cool, so it doesnot matter how the carbon atoms are arrainged, as long as they are carbon atoms?

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
You'll want to heat the graphite rod before you use them, why? Just torch them and you'll see how much oil(?) is in them

Disclaimer: I didn't do it, I didn't say it, I didn't mean it, it has nothing to do with me.

could I use mechanical pencil lead. like tape some together?

- dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

I tried to use a pencil for the rod, but the damn thing pissed me off because it kept breaking (I was trying to burn off the remaining wood after I whittled most of it down with a knife). In retrospect I should have used mechanical pencil lead, or just exposed the very top and bottom of the lead and left the wood on in the middle (only top and bottom comes in contact with wire/solution). Of course I went to a welding shop instead and bought some real rods, wonderful thing they are. They will break down over time, but they were only $1 each.

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It may or may not be worth the while, but sometimes the graphite inside cheap pencils(not too cheap, just regualr mediocre ones will do =]) will pop out if you try to push it out with a small rod, smaller then the diameter of the graphite obviously. Other ways could be to crush a pencil in a vise until the wood breaks apart. Try putting the entire pencil in the vise, then try pinching it right below where the graphite is. I like to simply use spent batteries. That way i get the black material which contains some manganese dioxide and the carbon rods. Recycling, just like they told us in school. =]
dlwdaw  
Frequent Poster  
posted October 26, 1999 10:13 PM

megawere they called carbon rods, or were they something else? and I have gotten pencil lead like that before just gently sruch the pencil and pull the lead out.

----------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

Ho ju  
Frequent Poster  
posted October 26, 1999 10:42 PM

sp pencil lead woule work? you were kinda unclear in your posting megaw, i am just making sure. and for the battery that is used can you just use a normal dry cell (the ones used to power big flash lights)

----------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

megalomania  
Administrator  
posted October 28, 1999 02:49 PM

Yes, you can use pencil lead, its just a skinny carbon rod. I am not sure what the welding shop guy called the carbon rod. I asked for a carbon rod and he got me one. I would suspect that the carbon rods in the larger lantern batteries would be the best to work with, alot more there to handle.

----------------
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Ho ju  
Frequent Poster  
posted October 28, 1999 03:37 PM

oh i am not talking about obtaining the carbon rods from the the lantern i am talking about the actual power source used. would a dry cell battery work?

----------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Sure, a battery would work, but... You will quickly drain the power and get very little from it. That's why we use AC powered battery charges, a continual low voltage power source that is just available as a battery (if a bit more costly in the short term).

The good news, I recently found an old science book that said, in 1960's zeal, that you can make your own electric rheostat (power regulator). The design is rather simple, if seemingly unsafe (by today's standards, keeping in mind that this book was being marketed to the school aged). You take a regular extension cord, or any electrical cord and YANK it! Keep the plug prong end. Now you have a wire that can be plugged into the wall and has two very dangerous exposed wires at the other end. Wrap one of the wires (oh, it help to separate the wires completely so they can move about) around a lead sinker. The other end can be attached to whatever you have to complete the circuit (in this case a carbon electrode). Place the end of the wire in a GLASS dish (it must be glass and it must be long, like a casserole dish). Use metal and you die, use plastic and it will melt (it is supposed to get hot). Fill this dish with water, and add a little salt (to allow electricity to flow). Now get another length of wire and affix one end to a lead sinker and the other end to whatever to complete the circuit (the other electrode).

Here's how it works:
The lead sinkers keep the wires anchored to the bottom of the pan. The voltage coming in from the house can be adjusted by bringing the leaded wires closer or farther apart. The closer together they are, the more power there is. Why do you need this rheostat? Because if you just hooked the wires up, you would blow out your fuse box. This very simple device is cheap and I guess effective.

NOTE: DO NOT try this quite yet... I am reciting this from memory, I do not have the book in front of me at the moment, but I will get it very soon now. There is a chance I left something out. It even has an illustration I can scan in 😁

You can see how a live current project can be considered dangerous by today's standards? And can you see how the trust the "authorities" gave us has diminished over the years?

------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

IP: Logged
I made a water rheostat many years ago when I tried to make an electric arc furnace from household parts. This might even be from the same book your looking at. Anyways, it worked just fine.

Another interesting thing to do with water and electricity is to take a diode and hook it in line with one of the wires so you have a DC current and then attach 2 thick aluminum rods to both wires. You then put the rods in a beaker full of distilled water. Touch the rods together underwater so that you get an arc. As the rods react, they form colloidal aluminum powder. This stuff is fine as the finest dust speck. Great for pyro. But it takes forever to get a decent amount.

--------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

That aluminum method is fascinating. Do the rods actually touch, or is there a small gap?
I'll bet it is the same book because the rheostat was supposed to be for an arc furnace. Did your book have the glass bottle cutter that used nichrome wire?

--------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

This site has plans for stun-gun also, but also for a variable powersource, something I have always wanted to build. This could be useful for electrolatosys if your too cheap to buy a car batery charger.
http://www.geocities.com/SiliconValley/Lab/1140/psupply.html
Power Supply

Here is a schematic for a regulated AC to DC power supply with three outputs: +5V, -15V and 0 to +15V.

Power Supply
+5V, 0-15V, -15V

Capacitors
C1, C2: Electrolytic, 4700 μF / 25V
C3, C5: Tantalum, 0.1 μF / 50V
C7: Tantalum, 2.2 μF / 50V
C4, C6: Tantalum, 1.0 μF / 25V

Resistors
R1: Wirewound, 10 ohm / 10W
R2: Carbon, 240 ohm / 0.5W
R3: Potentiometer, 5 k ohm linear

Semiconductors
D1-D4: 1N4005 Diodes
IC1: 7805H
IC2: LM317T
IC3: 7915H

Other
T1: Transformer, Hammond 166J33
S1: SPST Switch
F1: Fuse, MDL-3/4 A
Banana Jacks: Red, White, Violet, Black
### Topic: chronographing explosions

**Blaze**  
Frequent Poster  
*posted November 02, 1999 02:12 AM*

> How do they measure det. velocity?

**nbk2000**  
Frequent Poster  
*posted November 02, 1999 11:09 AM*

> How carefully

> "The knowledge that they fear is a weapon to be used against them."


**Al Koholic**  
unregistered  
*posted November 02, 1999 11:34 PM*

> Very carefully

> "The knowledge that they fear is a weapon to be used against them."


> how the explosive is set off, the shock is passed into the wire and im guessing that a voltage is produced and somehow the machine can determine the det velocity by this shock. For our explosives (anfo, AN slurries, or wax/an slurry mix) we usually got around 8,000 ft per second. This also depended on the type of mixture, (those with aluminum were higher).  

Al
<table>
<thead>
<tr>
<th>Username</th>
<th>Date Posted</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbk2000</td>
<td>November 03, 1999 02:03 AM</td>
<td>I suppose if you had an electronic timer that could measure in 1/10,000 second intervals that it would be a simple matter of taking two wires a known distance apart and measure the time it takes the explosion to break the second wire and turn off the timer after the first broken wire turns it on.</td>
</tr>
<tr>
<td>Blaze</td>
<td>November 03, 1999 06:36 AM</td>
<td>actually i saw once on tv, some anfo being blasted out a tube, thats what they must have been doing. So in theory you could perhaps dodgy up an old &quot;break the wire&quot; bullet chronograph as to have the wires running through the explosive at a set distance (whatever the arms of the chronograph are apart)..&lt;br&gt;&lt;br&gt;&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td>Ho ju</td>
<td>November 03, 1999 04:14 PM</td>
<td>I do not mean to bring up a private matter on the forum but Al Kohlic did not post an email addy. Al Kohlic, are you the same person that i talked to on ICQ...the same person from H20 land. from boy scout camp and all that shit? if so I am Al... I used to live on 715 ball ave... if so drop me a line. &lt;br&gt;&lt;br&gt;Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
<tr>
<td>Al Kohlic</td>
<td>November 04, 1999 01:43 PM</td>
<td>Yeah Al its me</td>
</tr>
</tbody>
</table>
dude register, and drop me a line at:

Charles21lb@yahoo.com

---------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!
** Topic: chemicals sources USA 1999 **

<table>
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<tr>
<th>Author</th>
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<tbody>
<tr>
<td>rjche</td>
<td>A New Voice</td>
</tr>
</tbody>
</table>

**posted November 04, 1999 07:05 PM**

Source for bulk chemicals in USA 1999

Potassium chloride as muriate of potash $5 per 50# farm coop store.

Calcium nitrate about 6$ a 50# bag, same places

Sodium nitrate as nitrate of soda about $5 a 50# bag same places.

Calcium chloride about 10$ a 100 # bag at tractor tire filling places.

85% phosphoric acid at small chem supply stores used diluted to 30% to change rust to iron phosphate which won't rust any further.

50% hydrogen peroxide at ma pa type chem supply stores, used to sterilize milk containers before milk is put in them. About $10 a gallon.

27% sulfuric acid high purity as 1.25 sp gr battery electrolyte for dry charged batteries. about $3 a gallon in 3 or 5 gallon jugs. Boil 3 gallons till it smokes to get about a gallon of 100% stuff.

Urea (pure) at fertilizer stores. About $10 a 50# bag.

31% hydrochloric acid at swimming pool supply and bulk cement plants for about $4 a gallon.

Calcium hypochlorite (nearly pure) at swimming pool supply houses at about a dollar a pound. Its about 60% compared to chlorox at 5.6%

11% sodium hypochlorite at janitor supply houses. (double strength chlorox)
Please add your sources to the thread to help budding chemists in this suppressive environment.

FYI when a kid before WWII, living in a mining town, we couldn't get fireworks but could buy #6 fuse caps at $1.50 a box of 100, and fuse at 1$ a 50 ft roll. We used those as our fireworks. We played with yellow phosphorus, metallic sodium and potassium, made black powder, etc using five fingered school chemicals, and adults tolerated our blasting noises as kids just learning stuff. How thing have changed...

I read in a home chemistry book that I got from the library, that you can also get 27% hydrogen peroxide at pool stores in a product called "baqua shock"
Would any one know the properties of this explosive? Can it be stored or any thing like that? Or better yet is this even a explosive? Here is the procedure:

Thanks
-Poison

1. A quantity of chlorine gas is collected in a small glass beaker, and placed upside down on another glass beaker containing a water solution of ammonium nitrate.
2. Now the solution of ammonium nitrate is heated gently. While it is being heated, the surface of the solution will become oily, and finally small droplets will form and sink to the bottom of the beaker.
3. After this process is finished, remove the heat and drain off excess ammonium nitrate solution. The droplets that remain at the bottom of the beaker are chloride of azode of nitrochloride. Nitrochloride explodes violently when brought into contact with an open flame, or when exposed to temperatures above 212 degrees F.

yes, its an explosive, primary in fact. look for it on mega's site. The only problem with it is that it will exploded when exposed to light after a while.

It is very sensitive, explodes in reaction to sunlight, foriegn contaminates such as organic compounds and will decompose after 1 day.

for more info: http://nettrash.com/users/megalomania/nitrogen_chloride.html
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HCL and AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlwdaw</td>
<td>posted October 11, 1999 08:30 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>would making AP inside of a bathroom be feasible??</td>
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<tr>
<td></td>
<td>also when I opened the bottle of 31.45% HCL in the car it had a</td>
</tr>
<tr>
<td></td>
<td>horrible</td>
</tr>
<tr>
<td></td>
<td>irritating smell. would I have to use a respirator when working with this</td>
</tr>
<tr>
<td></td>
<td>indoors??</td>
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<tr>
<td></td>
<td>I only opened the bottle for a few seconds, how long would it take HCL to</td>
</tr>
<tr>
<td></td>
<td>eat through a plastic syringe designed for allergy shots?</td>
</tr>
<tr>
<td></td>
<td>also how long would it take HCL to eat through a pair of dollar</td>
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<tr>
<td></td>
<td>store dish</td>
</tr>
<tr>
<td></td>
<td>washing gloves??</td>
</tr>
<tr>
<td></td>
<td>thanks in advance</td>
</tr>
<tr>
<td></td>
<td>-dlwdaw</td>
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<td>------------------</td>
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<tr>
<td></td>
<td>-dlwdaw</td>
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<tr>
<td></td>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
</tr>
<tr>
<td></td>
<td>-- Ragnar Benson</td>
</tr>
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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HCL and AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>posted October 12, 1999 06:04 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>why do you need to use a sringe?? i mixed up AP in my bedroom,</td>
</tr>
<tr>
<td></td>
<td>just using a bucket of frozen corn in water (had no ice!), a jar,</td>
</tr>
<tr>
<td></td>
<td>50ml beaker and a thermometer. I just mixed it all up then</td>
</tr>
<tr>
<td></td>
<td>chucked it in the freezer for about 48 hours. (i put the AP in the</td>
</tr>
<tr>
<td></td>
<td>freezer for a while to get cold the turn off the freezer. It says colder</td>
</tr>
<tr>
<td></td>
<td>then a fridge which helps to make the AP a little more stable.)</td>
</tr>
<tr>
<td></td>
<td>p.s make sure you haven't got anything in the freezer when you</td>
</tr>
<tr>
<td></td>
<td>turned it off, i did and everything defrosted!!</td>
</tr>
</tbody>
</table>

IP: Logged
If you'll notice, the bottle of HCL is made of plastic (all the ones I've seen are).

I need a syringe because I only used about 1 ml. of HCL and I don't have a grad cylinder that small, also it is a bitch trying to get an exact measurement with a grad. cylinder

-------------------
dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

dont laugh ut when you say
HCL you do mean battery acid right
if not what you mean
and where can i buy it

-------------------
dlw daw

HCl (AKA hydrochloric acid; hydrogen chloride; muriatic acid) is not battery acid (AKA sulfuric acid; H2SO4) you can buy HCl at the home depot (a hardware store) in the paint section, for some reason it is not in the solvents isle but I found it in the next isle

-------------------
dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

thanks you for telling me
Ahh, Dlw daw, I caught your recent foray into the world of sci.chem and I am not surprised nobody answered your question concisely. They degenerated into the same petty arguing it always is there. You even challenged the allmighty Uncle Al whose intelligence is far off the charts (I personally suspect he is not a single individual, no one could come up with that much educated drivel so often).

HCl tends to collect at the top of the bottle, it is a gas and it does vaporize. When you first open the bottle it can fume a bit, then it's fine until it has a chance to sit again. Of course you don't want to stick your nose in the bottle, it will not eat your brain out in the confines of the bathroom, it depends on what kind of plastic you are using but probably not for a loooong time, and don't use rubber gloves use a latex or better yet a nitrile if you can get em. Actually you could dump the acid on your skin and it would be harmless AS LONG AS you wash it immediately.

That guy who told you it would kill you is a nut.

I am mildly surprised that they did not expose you for a terrorist bomber, you asked about both HCl and peroxide, they usually sniff out the motive behind those kind of questions pretty quick. You did phrase it intelligently enough, they tend to respond to good questions with good answers.

-------------------
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it is a true WONDER they did not accuse me of being a mad bomber, earlier this year I asked about sodium azide, they were all acting like I was going to blow someone up. then a few months later I ask about H2O2 and HCl, they must be a little old(forget easily) because I'm the same person they partially flamed, and they did not even remember me, 😊 and I agree Uncle Al cant be one person he's got way too many answers, and I am sure he doesn't go looking in his library for 3 hours to find out the safest way to do this, or the fastest way to do that.
and megalomania so what I would do is open the bottle outside(to get the vapors away) then bring it inside?
and I meant latex, just used to saying rubber. and what is a nitrile? Thanks

-------------------
-dlw daw

"... always look on the positive side of things, blow things up not
is muriatic (SP) acid clear in color or is it murky?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

-- Ragnar Benson

Ho ju
Frequent Poster

posted October 31, 1999 02:00 PM

it is pretty clear
------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ho ju
Frequent Poster

posted October 31, 1999 04:31 PM

i think i have seen somewhere on this forum that people say muriatic acid is like 30% and they use that for AP but when i went to the store it said that the M. Acid was 20%. is there two different kinds?

------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

-- Ragnar Benson
<table>
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<tr>
<th>Username</th>
<th>Date and Time</th>
<th>Message</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr-D</td>
<td>posted November 01, 1999 02:31 PM</td>
<td>well, it's not 2 different kinds, just different brand/concentrations. Its both Hydrogen Chloride. Just one is weaker. When I tried making AP the crystals never formed, just some very slight haze on the bottom... Maybe I need greater than 3% h202? I used a lot of it...</td>
<td>Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted November 01, 1999 03:26 PM</td>
<td>well assuming 3% does work and you just did it wrong, what are the ratios of of acetone to 3% h202 and 20% hcl? Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
<td>Logged</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted November 02, 1999 01:30 PM</td>
<td>When you open the bottle of HCl for the first time just don't stick your nose in it 😊 It will puff a bit and that will be wisked away, a mere window or open door will be fine. I assume you are not dealing with open 55 gallon drums of the stuff, just a small bottle right? If its the bottle, there is no worry. The reason most people refer to their HCl as being ~30% is because that is the highest concentration commercially available, and so it gets sold OTC at that concentration. It is dependant on the brand though, some companies may try to squeeze the dollar by diluting it down, still HCl but we know better. Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
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</tr>
<tr>
<td>Username</td>
<td>Post Date</td>
<td>Text</td>
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<tr>
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<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Ho ju</td>
<td>November 02, 1999 03:43 PM</td>
<td>don't mean to sound like an ass...but that is great and all, but what about the ratios.</td>
<td></td>
</tr>
<tr>
<td>Zanx</td>
<td>November 04, 1999 06:11 AM</td>
<td>Ho ju, Mega already posted the ratios for AP. They were, Peroxide:Acetone-9 ml:50 ml. That's 9 mL of 100% peroxide. You can easily figure it out for 3%. 100 ml 3% peroxide contains 3ml pure peroxide. You can figure out the ratios for yourself.</td>
<td></td>
</tr>
<tr>
<td>Feticidal Fantasy</td>
<td>November 05, 1999 02:20 AM</td>
<td>I made AP using 3% h202 and it worked fine. I used 32% HCl which i got in the swimming pool section for $2 a gallon, the small bottles in the paint section are much more expensive. My ratios were: 1 cup of h202, 3/4 cup of acetone and 1/4 cup of HCl. it worked great. acetone and HCl hurt my eyes a lot so i bought a $30 gas mask, i recomend that all you buy one also, they are really nice. I wore latex gloves when i handled HCl and they worked just great. i even spilled some on my arm and it didn't hurt, i washed it off quickly. I got lye under my finger nails before, that hurts like hell.</td>
<td></td>
</tr>
<tr>
<td>Ho ju</td>
<td>November 05, 1999 06:35 AM</td>
<td>thank you F.F. how many grams of AP would you say you get with those proportions?</td>
<td></td>
</tr>
</tbody>
</table>

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! [http://www.seduced.to/fuckyourmother](http://www.seduced.to/fuckyourmother)

---

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
My AP is finally forming, 6 days into the reaction. I have a very small amount of liquid in a glass jar. I see snow like flakes forming. I mixed my outside and the acetone nor the HCl bothered me at all. I didn’t smell it one bit.

The acetone I used was extra strength acetone which all I can derive from that is that it has benzene added to it as it say so on the label... Now would benzene peroxide be forming too?

Ve He MT
Frequent Poster

posted November 05, 1999 06:50 PM

Yes, you'll notice if you dont inhale the fumes/put your face too close to it, you wont be bothered a bit. Doing it outside is a mighty good idea if you dont want to bother yourself with the fumes. But if you are careful as of not to inhale anything (not like its going to kill you anyways) you wont notice much.
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<th>Topic: I need info please</th>
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<tr>
<td><strong>Fjp92</strong> A New Voice</td>
<td><strong>posted November 04, 1999 11:28 PM</strong></td>
</tr>
<tr>
<td></td>
<td>Can any one tell me what copper powder can be used for? Can it maybe be used as a fuel in a fuel oxidiser mix? I Was wondering because its so damm easy to prepare.</td>
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</tr>
</tbody>
</table>

| **poison** Frequent Poster | **posted November 04, 1999 11:57 PM** |
|                          | The only thing I know is it can be used for greens. How do you prepair it? -Poison |
| IP: Logged               |                           |

| **Fjp92** A New Voice | **posted November 05, 1999 11:23 AM** |
|                       | What do you mean greens Do you mean like in green flames or what. To make it take a bunch of old zink cardon bateries. Like the ones they use in flash lights. If you take the thing appart youll can the out the zink casing. If the thing is to old the zink will allready be fucket(turnes to white shit) Put this zink in a copper sulfate solution youll get zink sulfate and copper metal You sould be able to get copper sulfate from places the sells stuff for swimming pools |
| IP: Logged            |                           |

| **poison** Frequent Poster | **posted November 05, 1999 11:44 AM** |
|                          | Yeah green flames. But copper sulfate can also be used but other then that I think it is a useless metal. Atleast in my opinion i havn't been able to find any good uses with it. -Poison |
| IP: Logged               |                           |
I need info please - The Explosives and Weapons Forum

Kalium
unregistered

posted November 05, 1999 01:54 PM

I'm not sure but it should go with aluminium. You don't need the zink out of the Batteries. The unprecious metal displace the precious metal out of his connection.

IP: Logged

* I g e n x *
Frequent Poster

posted November 06, 1999 11:20 AM

What good is copper sulfate good for but making Tetraminecopperchlorate?

IP: Logged

Administrative Options: Close Topic | Archive/Move | Delete Topic

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Powered by: Ultimate Bulletin Board, Version 5.38
since your recent discussions on oxygen, heres an simple to do idea i came up with..
If you run an electric current through water you end up with an explosive mix of hydrogen and oxygen, if trapped in a bottle it would have to make a loud boom..

would H+ O2 under such circumstances be stable?
i actually tried it but i stuck the nails too close together resulting in a spark setting the H around the nail up, sending the nail blasting across the room... looked cool but...
if that setup works it would be cool. but could water be split up into H + 02 or H2 + 0 (i am not sure wich one is correct) i thought there had to be at least 2 atoms of Hydrogen or oxygen in the molecule...you know HOBrFINCl

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Without getting into the technical details of electrolysis lets just say that your end product is dependant on the concentration of your electrolyte and the voltage going in. This means you can have many different things from the same ingredients. Under most circumstances you will get oxygen gas, $O_2$, and hydrogen gas, $H_2$. Note that you get 2 moles of hydrogen (twice as much), I think thats what you guys were stuck on. You will want to use an acid as the electrolyte, only a small amount so the electrons can flow (pure water does not conduct electricity). If you care to delve into the wonderful world of electrolytic potentials, all would be revealed...

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

--

Ho ju  
Frequent Poster

where do you get the extra h atom from? you can not just pull it from your ass can you?

----------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

--

nbk2000  
Frequent Poster


----------

"The knowledge that they fear is a weapon to be used against them."  www.50megs.com/nbk2000

--

Blaze  
Frequent Poster

so...umm.. oxygen is released?? but you wouldn't have 2:1 - H2:O2 because of the formation of iron oxide would you not.. as you may of picked.. ive never done chemistry
I do believe my iron electrodes (1 foot long, 1/4 inch diameter) wear down in about 1 week of constant use. They are electrolyzed with 12 volt battery charger more or less for 24 hours and half are consumed. Thats a rough estimate, but it shows that the rate of oxidation of the iron is negligible. Oh the wonders of reaction rates 😊 You would be hard pressed to notice the loss of the very few oxygen atoms stuck on iron, and so it doesn't enter into the equation. You could use platinum, then there would only be worries about creditors oxidizing your wallet...

-------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Blaze
Frequent Poster

so, now that my original post was nearly correct. Is it safe to mix H2 & O2 like that?

-------------
As long as there is no spark around the gas, sure.

-------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic:  firework explosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-kay</td>
<td>posted November 05, 1999 03:02 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>I read on a iffy web page about placing a firework in the middle of 2 or 4 cans of wd-40 and once ignited the firework in turn explodes the cans, is this just one more shit idea?</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>posted November 05, 1999 03:43 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>What kind of firework and It wont be an explosion, rather a fireball. WD-40 contains kerosene and oil. (pretty sure of that)</td>
</tr>
<tr>
<td>poison</td>
<td>posted November 05, 1999 06:32 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>My can of wd-40 is not flamable what so ever I think that they stoped making the flamable stuff a few years back I could be wrong but mine is not flamable. Yeah all it would make is a fireball. -Poison</td>
</tr>
<tr>
<td>poison</td>
<td>posted November 05, 1999 06:33 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>My can of wd-40 is not flamable what so ever I think that they stoped making the flamable stuff a few years back I could be wrong but mine is not flamable. Yeah all it would make is a fireball if it was flamable any thing in a can like that even hair spray would work. -Poison</td>
</tr>
</tbody>
</table>
poison is right, mine wasnt either.
I tried everything to get it lit, nothing worked.
I used a morning glory sparkler(hot shit) and it didnt ignite.
when I was about 8 I wanted to make a flame thrower out of an
aerosol can, but I didnt read the label.
I kept trying to make it flame and sprayed it on stuff and tried to
light it.
but when i b0othered reading the label it said
"Cold Fire"
I waisted a whole can of fire extinguishing spray to try to make a
fire.
it wasnt mine though, on of my friends stol it from the storage
place in his apartment building.
nothing seems to be flammable anymore 😜
I had some hairspray and i tried to light it.
the stuff wouldnt work.

------------------
dlwdaw

"... always look on the positive side of things, blow things up not
down"

-- Ragnar Benson

I think youll find its now compressed with CO2 as opposed to the
previous hydrocarbons, that be the reason it wont light up.

My can still works...... Also If you spray WD-40 on something then
try to light it, it wont because the kerosene will have evaporated.
My can is old tho (purchased over a year ago), I can go out and
buy another and see if it will work, but this wont be for a while
since I have no use for a second can.

If you spray WD 40 thru a lit flame, say from a propane torch, it
burns like fury. This works for new cans of WD 40 as well as
imposters like 'Bolt Breaker'
If you don't mind wasting $30 (US) then you can light a torch, open the valve to full burn and focus it on a can of compressed gas. It ought to work for hairspray, WD 40, or another tank of propane :-(

Yes, I know you have to spray it through a flame. I was saying that it won't burn after sprayed just incase others did not know. Also, the main reason why hair spray burns is because the propellant is propane/butane or a mix of the two. For this reason it is a stupid practice to use it in spud guns, since you can just use a refill butane can and no goooey mess inside your gun.
the other day I was messing with my acetone, and something happened. I think I got a little dizzy from the fumes, I went outside immediately. the I forgot all about my acetone. I went on my computer and didn't go to my 'lab' for about a week. well when I got dizzy I left the acetone canister open. well I just checked and I have no acetone in that container, it is empty.
good thing I bought 2 cans....

-----------
dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

Good thing there wasn't an open flame or you would have seen what a flash fire looks like. Good lab practice is to keep solvents in the smallest container needed for you immediate use and the rest safely stored away. Open the container and pour it out and IMMEDIATELY re-cap it. Good ventilation is important. And no ignition points nearby such as a motor, appliance, or water heater.

--------------
"The knowledge that they fear is a weapon to be used against them."  
www.50megs.com/nbk2000
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Sound Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn</td>
<td>Help! I've heard of people at school taking about these little bags that you can throw on the ground and it will create a BANG sound. You supposedly don't use any fire to do this. Does anyone know of the chemical or chemical compound that would accomplish this. It would have to react with oxygen since there is no heat. If anyone can help me out it would be really appreciated.</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>What you speak of could be one of two things. 1) Poppers, small white objects consisting of gravel and silver fulminate(speculative) wrapped in a small piece of tissue paper. These are about 8mm in diameter. 2) pressure creating bags(not the exact name, dont know what they are exactly called) Small sealed plastic bags (around 8cm x 10cm) with an acid and some sodium bicarbonate. The bag either contains water or vinegar. If it contains water, then citric acid would be used mixed with the sodium bicarbonate. The liquid bag is popped by squeezing the device and pressure builds up until the bag bursts.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>i am going to assume that they are the poppers. A bag filled with baking soda and a type of acid is to complicated for a school setting when you can poppers for a buck a box. Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!</td>
</tr>
</tbody>
</table>

IP: Logged
dlwdaw
Frequent Poster

posted November 02, 1999 09:49 PM

I think he was talking about bomb bags.
or fart bombs.
they work on the same principle as instant cold packs.
there is a pouch filled with liquid and there is a bigger bag outside and
there is powder in the bigger bag, when you squeeze the inner bag pops
and builds up pressure in the outer bag resulting in a "boom"
I bought a few fart bombs at a gunshow, and I let about ten of them off
outside.
the police that were inside thought it was gunfire and they came out. he
I got all my bomb bags and fart bombs confiscated,
I spent 30 dollars on them 😃
I bought about 100 or more.
BTW do not be around when the fart bombs go off.
they really smell like shit (no pun intended)
--------------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

darc ey
Frequent Poster

posted November 03, 1999 09:07 PM

what kind of effect do you want to make? just a loud bang? if you want
a loud bang you should try soda bulb or Co2 bombs. These are just the
small Co2 bulbs you get for cream dispensers or gass bb guns put
inside of a film case filled up with sparkler powder. You just powder up
the sparklers by breaking them off their wire stick (not to fine), put
some powder in the bottom of the film case, put the Co2 bulb in, pack
powder around the bulb until full, wack and sparkler in for a wick, light
and run. This will made a very loud bang and produce little to no
shrapnel.

heaps of fun for a sunday afternoon

---------------------
smoke, pot and peace
---------------------
darc ey

IP: Logged
Ho ju
Frequent Poster

posted November 03, 1999 10:36 PM

Explosives are a bad thing to get caught with/set off in or around school. You would get expelled so fucking fast it would not be funny.

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!

nbk2000
Frequent Poster

posted November 04, 1999 04:23 AM

Now, with all the school massacres, this would probably be a felony charge with terrorism thrown in. Don't fuck with the stuff at school unless you intending to blow it up for real. Otherwise your just inviting a big guy named bubba to come over and butt fuck you when your ass is thrown in jail for stupid shit.

-------------------
"The knowledge that they fear is a weapon to be used against them."

poison
Frequent Poster

posted November 04, 1999 12:01 PM

Explosives and school = nono, Haha gitting butt fucked just so you can be "cool" with a big "boom" hahaha.
-Poison

Ho ju
Frequent Poster

posted November 04, 1999 03:21 PM

Yeah jail is the only reason I stay on the strait and narrow. I am not exactly a big kid so I would be passed around like a female cat in heat. (I can just imagine how my ass would feel...ouch!)

-------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
Feticidal Fantasy
Frequent Poster

posted November 05, 1999 02:07 AM

They will bust you a 100 times worse if you do it at school. I got caught with a pair of nunchucks at 2 am on school grounds and I got 2 years probation, $250 in fines, and 50 hours of community service. and those bastards stole my nunchuck. There is a law in California that if you get caught with any kind of explosives(anywhere) you get a minimum one year of state prison, even for kids.

-----------
Want to learn how to make homemade explosives, weapons, and poisons? Come to my website! http://www.seduced.to/fuckyourmother

IP: Logged

darcey
Frequent Poster

posted November 05, 1999 05:20 AM

i'm sorry but you seem to have lost me, where did the "letting explosives off at school" come up??

-----------
smoke, pot and peace
-----------
darcey

IP: Logged

Ho ju
Frequent Poster

posted November 05, 1999 06:37 AM

well let me explain 😊 you asked about things kids did in school. some people replied to your original message. than you were talking about c02 bombs and shit like that. than i chimed in that that is a bad idea (brining BOMBS to school)

------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

darcey
Frequent Poster

posted November 07, 1999 07:01 PM

hey autum,
i have the formula for a whissle mix if you want that? when it burns it makes a really high pitched whissle. good for rockets!!

IP: Logged

darcey
Frequent Poster

posted November 07, 1999 07:03 PM

i didn't ask Ho ju a guy called Autum did

IP: Logged
Ve He MT
Frequent Poster

posted November 07, 1999 07:41 PM

70% potassium perchlorate, 30% sodium benzoate. Standard whistle mix. Sodium or Potassium Benzoate will do. Burns extremely fast.

IP: Logged

nbk2000
Frequent Poster

posted November 07, 1999 09:33 PM

They used to use sodium picrate before the country got pussyfied. Na picrate is made from picric acid and baking soda.

-----------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged

darcey
Frequent Poster

posted November 07, 1999 10:54 PM

The loudest Whistling mix is accually
Potassium perchlorate 64%
Potassium Benzoate 32%
Red Iron oxide 1%
Petroleum jelly 3%

if you want the info on how to make it i will post it, you have to melt it and use toluene plus do a couple of other things and i can be bothered posting it at the moment.

IP: Logged
### Topic: Rocket Fuel

**darcey**  
Frequent Poster  

*posted November 07, 1999 06:58 PM*

What are some good Kn03 or Ammonium Nitrate based rocket fuels?? i have tried the old suger+ Kno3 and wasn't too impressed. The Kn03 and Vit C wasn't all that bad but 2 out of every 5 exploded (because of too much compression). Does anyone else know any other good rocket fuel formulas? Would mixing copper or Aluminium particlas with the fuel create a coloured flame or will it do jack shit?

**nbk2000**  
Frequent Poster  

*posted November 07, 1999 09:55 PM*

Adding metal powders will color the flame while also making it burn much faster and hotter.

You say that the VitC powder worked but cause explosions. Was it loose powder, rammed, compressed with a binder, or what? I'm interested in knowing the details (since I'm the one who first posted it).

"The knowledge that they fear is a weapon to be used against them."

<table>
<thead>
<tr>
<th>poster</th>
<th>date</th>
<th>message</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcenet</td>
<td>November 07, 1999</td>
<td>I have been making a new rocket today with about 20 grams of a copper/aluminium powder and am waiting till night time to set off. The VitC gunpowder was constructed with a hydraulic press and a mold. After making the powder (65/35) i slightly wet it with solvent and spooned the mix into the mold (high impact PVC) then put under the press. A piece of dowel the same diametre as the mold was attached to the press. The press was locked and then used to compress the damp powder under 150 kgs of pressure. The compression lasted 1/2 and hour then the mold was taken off the press. I then drilled, at a low speed, a core down the centre of the fuel block (the compressed VitC powder). The fuel block was then taken out of the mold and loaded into a pre made PVC rocket. The rocket was set off with homemade igniters from a really good rocket page (i can get the address if anyone wants it). I made two of these rockets and they both exploded with alot of force (totally destroyed my launch platform and 5 bricks it was standing on in the second launch). I decided that either the compression was too great or the rocket motors hole was too small. So i downed the compression down in weight and time (only 100kgs for 5 minutes) plus i added a binder. I used gum arabic which is a better binder for colder climates. A small amount(roughly one table spoon per 40 grams) was added then wet with distilled water. This was then compressed and loaded into pre made PVC rockets. These rockets work a treat. I lost sight, at night after about 5 seconds. I have made up a 600gram rocket using suger/Kn03+20 grams of the copper/aluminium metal mix. I Plan to launch this rocket in about 2 hours (or when dark). I will post what happens.</td>
</tr>
<tr>
<td>VeHeMT</td>
<td>November 08, 1999</td>
<td>The problem wasnt too much compression. In fact you may want even more compression. But it means nothing until you know the density of the propellant grain. I would suggest shortening the length of the inner core with small increments until you produce a motor that functions properly (no more CATO's ;)). How was the KNO3/Sucrose mixed? It is strange, I have had very good success with that fuel. And where did you get the ascorbic acid? I can get the pure ascorbic acid from the pharmacy here but is 8 dollars for 100 grams (fuck that) or 2.50 for 25 grams.</td>
</tr>
</tbody>
</table>
I hope you all like this
Get some Non Dairy Creamer in the Powder form. Make a small fire in your backyard. Be sure not to catch yourself on fire. At first, sprinkle the creamer on the fire. You will get some small Poof's. Gradually start increasing the amount of creamer that you throw on the fire. I have a 9 foot non dairy creamer fireball that I made On tape. This is really easy, and really fun. Jake

they are also really legal(I hope so atleast)
I'm going to stay home for about an hour on holoween and scare kids away by making a fireball with creamer.
I burned the crap out of my arm yesterday I forgot my candle and I used a lighter, I poured the creamer over the lighter and it hurt very bad 😞

----------------------
dlwadaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Why not try putting it into a 35 mm film canister with a small charge of blackpowder at the bottom and a fuse into the gunpowder?
**nbk2000**  
Frequent Poster  

posted October 31, 1999 04:33 AM  

Why not use aluminum dust instead? Much brighter flash. Very impressive. Although it is more expensive 😄.

-------------------

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

---

**Ho ju**  
Frequent Poster  

posted October 31, 1999 11:55 AM  

SpiritMagician, did you happen to get the non dairy creamer fireball off andy's page? kudos if you didn't but come on...

-------------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

**Ve He MT**  
Frequent Poster  

posted October 31, 1999 12:43 PM  

There are many many many places on the internet that show the making of dairy creamer fireballs. The makeshift ARSENAL is one. Many amateur pyrotechnic websites also discuss the practice. Its almost common knowledge. And is also a subject that just seems like it wont die on this forum as new users come and keep bringing it up.

---

**SpiritMagician**  
A New Voice  

posted November 01, 1999 11:18 AM  

You can't put it in a film canister because it only ignites if in a cloud. You cant put a match to it and expect it to burn, it has to be mixed with oxygen and in the air.

---

**poison**  
Frequent Poster  

posted November 01, 1999 11:51 AM  

Yes it does. Becuase the blackpowder pushes it up making it a cloud and igniting it also.  
-Poison
Ve He MT  
Frequent Poster  

posted November 01, 1999 01:05 PM

The other great thing is that the cloud wont ignite until it is dispersed enough to combust. If it does not disperse in enough oxygen to combust it wont, because it cant until it does disperse enough.

---

Ho ju  
Frequent Poster  

posted November 01, 1999 03:24 PM

yeah it is the same thing with saw dust. if you try and light a pile of it, nothing, but if you get a build up of it in the air...say in a factory, and someone lights a match BOOM! everyone is fucked. Another example is grain (finley powdered) in a silo. i have heard cases where farmers are smoking and there cig causes the dust in the air to go up.

--------------

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

megalomania  
Administrator  

posted November 02, 1999 01:24 PM

Just about any finly divided (powdered) metal or normally organic material will combust. Oh the hazards of farming. I do the fire ball experiment in the lab as a demo to the gen chems. Take lycopodium powder (mold spore, creamer could work too) and sift into a funnel connected to a rubber hose. Affix the funnel on a ring stand (We use an iron ring with the funnel in it) and light a bunson burner in front of the funnel. Forcefully blow on the other end of the hose with an even breath to expell the powder slowly but surely. It will ignite sending a flaming pillar upwards. We do this inside, the flame rolls accross the ceiling and they run for their lives 😊

--------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Ho ju  
Frequent Poster  

posted November 02, 1999 03:42 PM  

sounds cool, wish my chem teacher was cool like that (although i am taking highschool chem not college chem)

------------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

IP: Logged

SpiritMagician  
A New Voice  

posted November 02, 1999 11:15 PM  

Yeah, at least you guys in high school get to something. Im still in junior high, which frankly, in my opinion, sucks monkey balls. Jake

IP: Logged

dlwdaw  
Frequent Poster  

posted November 02, 1999 11:48 PM  

what grade are you in??

------------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

dlwdaw  
Frequent Poster  

posted November 02, 1999 11:57 PM  

STOP
Profile for SpiritMagician

Search: All posts by this registered user.

Date Registered: October 30, 1999
Status: A New Voice
Total Posts: 4
Current Email: mlizzio@owc.net
Homepage: http://
Occupation: Student
Location: Crystal Lake, Illinois, USA
Interests: Magician/Pyro/Anarchist
ICQ Number:

Powered by: Ultimate
if you think writing "Magician/pyro/anarchist"
will make you look cool, think again sonny boy I might only be a
year or 2 older than you,
but I don't consider myself an anarchist.
I used to want to be one, because those were the only files you
could get.
now I found the forum and alt.engr.explosives
I don't like anarchy,
if you are talking about hating the government sorry.
but if you are trying to be like the dickheads who write 'jolly
roger cookbook'
than I will say change your ways.
I think the guy who writes those files are like 7 year olds,
the only 'good' files I have seen are the captain hack files, they
are still anarchy files but they are things that he has tried.
please give up anarchy(unless it is hating the government).
I am an anarchist if you use the REAL meaning( meaning being I
hate the government).
but I do not hurt people and I do not want to steal stuff.

-------------------
-dlwdaw

"... always look on the positive side of things, blow things up
not down"

-- Ragnar Benson

SpiritMagician
A New Voice

posted November 05, 1999 07:33 PM

Hell yeah im talking about hating the god damn government. Im
not talking about people who write files about making explosives
that take highly dangerous acetylene which nearly killed my
brother in his Auto's class in school. I'd never write something
about me to" make myself look cool". Dickheads who do that
are just posers trying to look cool.
I hate the stupid government. Im in 8th grade, so all of you who
feel fit to flame me for saying I hate the government since im
too young, feel free. But I can handle my own opinions, and I
hate the government. And I don't know too much about either
Jake

IP: Logged
good.  
I hate the government too. 
I just wanted to make sure you weren't a cool bomber. 
sorry for the flame. 
and you should not get flamed. 
and hell I'm in 8th grade too.

the only place I have gotten flamed in is rec.pyro 😒
stupid assholes, even when I asked a real pyro question i get flamed, I rarely ever post to rec.pyro anymore.

again sorry for that "flame"
I just hate those so called 'anarchists'
they are dickheads.
he he. listen to this one.
"How to make a fertilizer bomb by Jolly Roger

Ingredients:
- Newspaper 
- Fertilizer (the chemical kind, GREEN THUMB or ORCH) 
- Cotton 
- Diesel fuel

Make a pouch out of the newspaper and put some fertilizer in it. Then put cotton on top. Soak the cotton with fuel. Then light and run like you have never ran before! This blows up 500 square feet so don't do it in an alley!! -Exodus-

hilarious, 
this one always cracks me up

"How To Terrorize McDonalds by the Jolly Roger
(Originally an Apple ][ file so excuse the upper case!!!)

NOW, ALTHOUGH Mc DONALDS IS FAMOUS FOR IT'S ADVERTISING AND MAKING THE WHOLE WORLD THINK THAT THE BIG MAC IS THE BEST THING TO COME ALONG SINCE SLICED BREAD (BUNS?), EACH LITTLE RESTAURANT IS AS AMATEUR AND SIMPLE AS A NEW-FOUND BUSINES. NOT ONLY ARE ALL THE EMPLOYEES RATHER INEXPERIENCED AT WHAT THEY'RE SUPPOSED TO DO, BUT THEY WILL JUST LOOSE ALL CONTROL WHEN AN EMERGENCY OCCURS....HERE WE GO!!! FIRST, GET A FEW FRIENDS (4 IS GOOD...I'LL GET TO THIS LATER) AND ENTER THE MCDONALDS RESTAURANT, TALKING LOUDLY AND REAKING OF SOME STRANGE SMELL THAT AUTOMATICALLY MAKES THE OLD COUPLE SITTING BY THE DOOR LEAVE. IF ONE OF THOSE PIMPLY-FACED GOONS IS WIPING THE FLOOR, THEN TRACK SOME CRAP ALL OVER IT
(YOU COULD PRETEND TO SLIP AND BREAK YOUR HEAD, BUT YOU MIGHT ACTUALLY DO SO).

NEXT, BEFORE YOU GET THE FOOD, FIND A TABLE. START YELLING AND RELEASING SOME STRANGE BODY ODOR SO = ANYBODY= WOULD LEAVE THEIR TABLE AND WALK OUT THE DOOR. SIT 2 FRIENDS THERE, AND GO UP TO THE COUNTER WITH ANOTHER.

FIND A PLACE WHERE THE LINE IS SHORT, OR IF THE LINE IS LONG SAY "I ONLY WANNA BUY A COKE" AND YOU GET MOVED UP. NOW, YOU GET TO DO THE = ORDERING= …HEH HEH HEH. SOMEBODY = ALWAYS= MUST WANT A PLAIN HAMBURGER WITH ABSOLUTELY NOTHING ON IT (THIS TAKES EXTRA TIME TO MAKE, AND DRIVES THE LITTLE HAMBURGER-MAKERS INSANE)..ORDER A 9- PACK OF CHICKEN MCNUGGETS…NO, A 20 PACK…NO, THREE 6 PACKS…WAIT…GO BACK TO THE TABLE AND ASK WHO WANTS WHAT. YOUR OTHER FRIEND WAITS BY THE COUNTER AND MAKES A PASS AT THE FEMALE CLERK. GET BACK TO THE THING AND ORDER THREE 6-PACKS OF CHICKEN ETC….NOW SHE SAYS "WHAT KIND OF SAUCE WOULD YOU LIKE?".OF COURSE, SAY THAT YOU ALL WANT BARBECUE SAUCE ONE OF YOUR FRIENDS WANTS 2 (ONLY IF THERE ARE ONLY 2 CONTAINERS OF BARBECUE SAUCE LEFT). THEN THEY HAFTA GO INTO THE STOREROOM AND OPEN UP ANOTHER BOX. FINALLY, THE DRINKS…SOMEBODY WANTS COKE, SOMEBODY ROOT BEER, AND SOMEBODY DIET COKE. AFTER THESE ARE DELIVERED, BRING THEM BACK AND SAY "I DIDN'T ORDER A DIET COKE! I ORDERED A SPRITE!"

THIS GETS THEM MAD; BETTER YET, TURN DOWN SOMETHING TERRIBLE THAT NOBODY WANTS TO DRINK, SO THEY HAFTA THROW THE DRINK AWAY; THEY CAN'T SELL IT.

AFTER ALL THE FOOD (?) IS HANDED TO YOU, YOU MUST = NEVER= HAVE ENOUGH MONEY TO PAY. THE CLERK WILL BE SO ANGRY AND CONFUSED THAT SHE'LL LET YA GET AWAY WITH IT (ANOTHER INFLUENCE ON HER IS YOUR FRIEND ASKING HER "IF YOU LET US GO I'LL GO OUT WITH YOU" AND GIVING HER A FAKE FONE NUMBER).

NOW, BACK TO YOUR TABLE. BUT FIRST, SOMEBODY LIKES KETCHUP AND MUSTARD, AND PLENTY (TOO MUCH) OF NAPKINS. OH, AND SOMEBODY LIKES FORKS AND KNIVES, SO ALWAYS END UP BREAKING THE ONES YOU PICK OUTTA THE BOX. HAVE YOUR FRIENDS YELL OUT, "YAY!!!! WE HAVE MUNCHIES!!" AS LOUD AS THEY CAN.
THAT'LL WORRY THE ENTIRE RESTAURANT. PROCEED TO SIT DOWN. SO, YOU ARE SITTING IN THE SMOKING SECTION (BY ACCIDENT) EH? WELL, WHILE ONE OF THE TOBACCO-BREATHERS ISN'T LOOKING, PUT A SIGN FROM THE OTHER SIDE OF THE ROOM SAYING "DO NOT SMOKE HERE" AND HE'LL HAFTA MOVE...THEN HE GOES INTO THE REAL NON-SMOKING SECTION, AND GETS YELLED AT. HE THEN THINKS THAT NO SMOKING IS ALLOWED IN THE RESTAURANT, SO HE EATS OUTSIDE (IN THE POURING RAIN) AFTER YOUR MEAL IS FINISHED (AND QUITE A FEW SPLATTERED-OPENED KETCHUP PACKETS ARE ALL OVER YER TABLE), TRY TO LEAVE. BUT OOPS! SOMEBODY HAS TO DO HIS DUTY IN THE MEN'S ROOM. AS HE GOES THERE, HE STICKS AN UNEATED HAMBURGGR (WOULD YOU DARE TO EAT ONE OF THEIR HAMBURGERS?) INSIDE THE TOILET, FLUSHES IT A WHILE, UNTIL IT RUNS ALL OVER THE BATHROOM. OOPS! SEND A PIMPLY-FACED TEENAGER TO CLEAN IT UP. (HE WON'T KNOW THAT BROWN THING IS A HAMBURGER, AND HE'LL GET SICK. WHEEE!) AS YOU LEAVE THE RESTCURANT, LOOKING BACK AT YOUR UNCLEANED TABLE, SOMEBODY MUST REMEMBER THAT THEY LEFT THEIR CHOCOLATE SHAKE THERE! THE ONE THAT'S ALMOST FULL!!!! HE TAKES IT THEN SAYS "THIS TASTES LIKE CRAP!", THEN HE TAKES OFF THE LID AND THROWS IT INTO THE GARBAGE CAN...OOPS! HE MISSED, AND NOW THE SAME POOR SOUL WHO'S CLEANING UP THE BATHROOM NOW HASTA CLEAN UP CHOCOLATE SHAKE. THEN LEAVE THE JOINT, REVERSING THE "YES, WE'RE OPEN" SIGN (AS A REMINDER OF YER VISIT THERE YOU HAVE IT! YOU HAVE JUST PUT ALL OF MCDONALDS INTO COMPLETE MAYHEM. AND SINCE THERE IS NO PENALTY FOR LITTERING IN A RESTAURANT, BUGGING PEOPLE IN A PUBLIC EATERY (OR THROW-UPERY, IN THIS CASE) YOU GET OFF SCOT-FREE. WASN'T THAT FUN?

--------------Exodus--------------

"

fuckin idiots who write these.

-------------
dlwdaw
"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Ve He MT
Frequent Poster

posted November 06, 1999 10:05 AM

I like the mc donalds one..... Heh

IP: Logged

SpiritMagician
A New Voice

posted November 06, 1999 10:44 AM

Hey, no problem about the flame. In my magicians newsgroup there are some total assholes who do nothing but underestimate me and flame me cuz Im too young. Yeah, well the can go fuck a tree.
That fertalizer thing was a laugh. Me and my brother like blowing things up, and he thought that was hilarious. The McDonald's thing si funny if it happened, but i wouldn't go out of my way to set it up.
Its cool to see someone my age haiing the government and blowing things up at the same time. I finally feel like I fit in (somewhere.... who knows where)
Ill post all of my fun expsloions l8r.
Jake

IP: Logged

dlwdaw
Frequent Poster

posted November 06, 1999 11:28 AM

spirit magician do you have ICQ?!?!?!?!
if not, go to www.icq.com and download it.
my ICQ nickname is dlwdaw.
and my ICQ number is 50416647
and darkdwarf, I'm still waiting for you to authorize me.

----------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged
**megalomania**  
Administrator  
posted November 06, 1999 09:17 PM

Why can't I just have a Big Mac WITHOUT cheese please! Oh, no. I got one without any meat... I brought it back to the counter and the manager threw the sandwich at the guy who made it then told him to clean up his mess. That was very funny. I have never seen somebody that mad over a sandwich.

----------------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---

**dldaw**  
Frequent Poster  
posted November 06, 1999 09:38 PM

I hate mcdonalds.
one time I ask for a cheese burger without onions and they gave me extra onions and no fuckin buns.
sorry to all the spanish people in here (if there are any) but those fuckin spicks at mcdonalds need to go learn english.
it is wierd here in VA.
mcdonalds is an american restraunt(well irish, but close enough

😊
and taco bell(horrible food) is a spick restraunt.
well spicks work at mcdonalds and americans work at tacobell.
fuckin insane.
I get talked to in enlish in a mexican restraunt and spanish in an english restraunt, drives me fuckin crazy.

----------------------

-dldaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

---

**VeHeMT**  
Frequent Poster  
posted November 06, 1999 11:20 PM

No need for the racial slurs...

megas, I would give anything(how bout 10 cents :) ) to have seen that! You are very very lucky mega ;], and don't ever forget that!
nbk2000
Frequent Poster

posted November 06, 1999 11:59 PM

Don't feel bad. Years ago I applied for a job at Taco Puke and not 1 person working there was white except the manager. He told me he couldn't hire me unless I had a state ID (i just moved here from NV) to prove that I was an american. I showed him my passport and he said he couldn't use that, it had to be california ID. He said it was because of all the illegal mexicans coming over taking american jobs that the laws were like that.

---------------------
"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged

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dlwdaw
Frequent Poster

posted November 07, 1999 08:45 AM

ha ha ha.
do you look white?
do you speak with a spanish accent?
that manager was a dumb ass because I'am sure you are white and dont speak with an accent.
did you get the job?
and TAKING over american jobs,
over here they've already TAKEN.
but it is only had labor jobs, like digging holes, painting, stuff like that.
fuckin mexicans always spill paint all over the road. this really doesnt have anything to do with the topic(well neithe does mcdonals) but mexicans reminded me of something.
my brother has this friend, this friend has this uncle, this uncle is gay, he only likes to fuck young mexicans, you always see him going out of his house or into his house smiling with a mexican.
it makes me sick, one time he was telling someone about a one night stand someon gave him, and I over heard and almost puked.

---------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

This topic is 2 pages long:   1 2

All times are ET (US)

Administrative Options: Open Topic | Archive/Move | Delete Topic
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Fireballs - Unbelievably easy</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Igenx</em></td>
<td><strong>posted November 07, 1999 02:42 PM</strong></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Come on folks! Why does shit like this end up on a message board? If you guys want to send completely useless and boring information, do it in a chatroom. This board is not about the dumbasses at McDonalds!</td>
</tr>
<tr>
<td></td>
<td><strong>posted November 07, 1999 02:45 PM</strong></td>
</tr>
<tr>
<td>Ho ju</td>
<td>Also, don't post complete articles if they aren't requested. Why not just insert a link? I have better things to do with my time than to scroll thru 6 screens of text I've read four times already.</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td><strong>posted November 07, 1999 06:06 PM</strong></td>
</tr>
<tr>
<td></td>
<td>yeah links are always better, in my opinion anyway. I did not even read the post on mcdonalds. it was to long.</td>
</tr>
<tr>
<td></td>
<td>---------------------------</td>
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<tr>
<td></td>
<td>-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!</td>
</tr>
<tr>
<td></td>
<td>-The eagle may soar but the weasel does not get sucked into jet engines.</td>
</tr>
<tr>
<td></td>
<td>-The beatings will continue until morale improves.</td>
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</tbody>
</table>

IP: Logged
Point well taken... I suppose I should have done this sooner.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: &quot;Nitrosucrose&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>poison</td>
<td>posted November 08, 1999 01:42 PM</td>
</tr>
<tr>
<td>Kalium</td>
<td>posted November 08, 1999 03:47 PM</td>
</tr>
<tr>
<td>Author</td>
<td>Topic: Nitroguanidine</td>
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<tr>
<td>-------------</td>
<td>------------------------------------------</td>
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<tr>
<td><strong>Enigma</strong></td>
<td>A New Voice</td>
</tr>
<tr>
<td></td>
<td><strong>posted October 24, 1999 09:48 PM</strong></td>
</tr>
<tr>
<td></td>
<td>Does anyone know what it takes to initiate nitroguanidine? I've tried 2 grams mercury fulminate and 2 grams HMTD with no success. May what I made wasn't nitroguanidine!?</td>
</tr>
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<td>IP: <strong>Logged</strong></td>
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</tbody>
</table>

| **Enigma**  | A New Voice                               |
|             | **posted November 05, 1999 10:58 PM**     |
|             | Since most here concentrate on AP, HMTD, and creamer fire balls. Obviously nitroguanidine is way above the heads of most here. |
|             | IP: **Logged**                            |

| **Ho ju**   | Frequent Poster                          |
|             | **posted November 07, 1999 05:53 PM**    |
|             | where in the fucking hell did that come from? just cause no one answered your question with lightning fast speed? |
|             | ---------------------------------------- |
|             | --------------                           |
|             | Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!! |
|             | -The eagle may soar but the weasel does not get sucked into jet engines. |
|             | -The beating will continue until morale improves. |
|             | IP: **Logged**                            |

| **Enigma**  | A New Voice                               |
|             | **posted November 07, 1999 07:11 PM**     |
|             | I'm not impatient, 12 days is quite along time as I am sure that most here at least READ all the news posts. Instead of a flame, howbout enlightening me on said subject. |
|             | Thanks.                                  |
|             | IP: **Logged**                            |
You should be careful what you say here. Some people are very touchy and will make you any outcast in no time. Before you know it no one will answer any of you posts. Sorry but I'm not sure about your problem, try emailing the administrator of this forum, he might know.

No wonder it won't explode. Nitrated bird shit. That's where guanidine came from originally. guano. While it is explosive, why are you bothering with it? Curiosity or research? That's good, but for practical applications just use the good ol' reliable s like AP or HMTD with ANFO or RDX. No guessing with those.

And maybe no one answered you because who cares about nitrated shit?. And I know it's not literally shit.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

guano is batshit.
bird shit is just plain discusting.

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

never thought of it as nitrated bird shit.

Sorry if I came on to strongly, I certainly do not want to make myself an outcast. There is a wealth of info here.

I was curious about this stable energetic and was curious when someone mentioned making it from Skylighters guanidine nitrate.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: need help</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fjp92</strong></td>
<td>If I have a mixture of potassium chloride and a ammonium salt how can I separate them. I tried to heat it to decompose the ammonium salt but it made a big mess. How much heat is needed to make H2SO4 an KNO3 react to give HNO3? Is it below 100 degrees cel?</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td><strong>Kalium</strong></td>
<td>The ammonium salts is it ammonium nitrate? You can remove the ammonium nitrate with wood alcohol. An question for the other. Can I use ethanol alcohol for this method?</td>
</tr>
<tr>
<td>unregistered</td>
<td></td>
</tr>
</tbody>
</table>

All times are ET (US)
**Author** | **Topic:** What can I combine to get chlorine gas?  
--- | ---
**Apathetic**  
Frequent Poster | ![image] posted November 05, 1999 03:00 PM  
I want to try to make potassium chlorate from lye. To do that that I need to bubble chlorine through lye. I read that I should use sani-flush and bleach, but I can't find sani flush. In the same book it also says I can use hydrochloric acid and bleach. I tried this and it worked a little but it wasn't strong enugh to bubble through the lye.  
Thanks

**poison**  
Frequent Poster | ![image] posted November 05, 1999 06:30 PM  
Can you post the procceess of making potassium chlorate thrue the lye? Chlorine gas can be generated many ways ammonia and bleach make chlorine gas .  
-Poison

**Blaze**  
Frequent Poster | ![image] posted November 05, 1999 11:51 PM  
also HCl & KMnO4 = chlorine gas  
but probly no better than what you tried

**Kalium**  
unregistered | ![image] posted November 06, 1999 06:52 AM  
also you can use MnO2(Manganesedioxyd)&HCL. MnO2 is easy to obtain from Batteries.
I had a 'small' accident in my shop in early last year. If you combine ShockIt (a 66% pure chloranating compound for pools) with a petroleum product, I can't remember what exactly was mixed the first time, but I know that it generated enough chlorine gas to fill a 12X20 room.

---------------------------
Information needs to be free-
kill the f*ckers that try to stop
it's publication!

--------------------
No Sani-Flush?!? It is a very good way. I suppose I better research other ways, I know they are out there, but I use the Sani-Flush as it is the best so I never bothered with other ways...

---------------------------
Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania

--------------------
Here's a process for making chlorine from the 1870s, back before anything was high-tech.

Pour hydrochloric acid diluted with an equal weight of water onto half its weight of HTH (shock it, calcium hypochlorite). Chlorine is immediately produced in quantity, much more rapidly if heated.

Pass it through a small amount of water to remove excess HCL gas, and dry with calcium chloride.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

--------------------
Ahh, thats the one I was thinking of, saved me the trouble of researching it on end. However, when you bubble chlorine gas into water it will make more hydrochloric acid, so it may not get rid of any that way.

---------------------------
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<table>
<thead>
<tr>
<th>Name</th>
<th>Post Time</th>
<th>Message</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apathetic</td>
<td>posted November 08, 1999 10:02 PM</td>
<td>I've tried the manganese dioxide + hcl and it worked great! It made pressure strong enough to bubble through the lye. But I still haven't made the potassium chlorate yet because I need to find some more batteries so I can make some more chlorine to neturalize the lye.</td>
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<td>Logged</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted November 09, 1999 12:11 PM</td>
<td>Oh, umm, there is no potassium in lye, its sodium hydroxide. From it you will make sodium chlorate.</td>
<td>Logged</td>
</tr>
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<td></td>
<td></td>
<td>----------Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
<td></td>
</tr>
<tr>
<td>Apathetic</td>
<td>posted November 09, 1999 09:14 PM</td>
<td>Is sodium chlorate in &quot;solidox&quot;? Thanks</td>
<td>Logged</td>
</tr>
</tbody>
</table>
Yes. Do you know of a source? I haven't been able to find it where I live recently.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
<table>
<thead>
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<th>Author</th>
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<tbody>
<tr>
<td><strong>Fjp92</strong></td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted November 10, 1999 01:57 AM</td>
</tr>
<tr>
<td></td>
<td>I was wondering if any one could help me. I found this paint stripper called nitromors and i was wondering if it could contain nitromethane. On the container it reads: contains dichloromethane and methanol. but i dont know why the word nitro in the name if it doesnt have anything with nitro in ,in it. Is it possible that nitromethane can be used in paint and varnish strippers?</td>
</tr>
<tr>
<td><strong>kromsson</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td>posted November 10, 1999 08:20 AM</td>
</tr>
<tr>
<td></td>
<td>No : it contains nitrocellulose. That's why you need a nitro thinner for it.</td>
</tr>
<tr>
<td></td>
<td>-----------------</td>
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<tr>
<td></td>
<td>Those people who tell you not to take chances they are all missing all what life's about...</td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Acetone Peroxide Stinks!!!</th>
</tr>
</thead>
</table>
| dlwdaw       | posted November 06, 1999 03:05 PM | I just made some AP and it has this weird smell. is it just mine or is it supposed to have that smell??
| Frequent Poster |                                       | "... always look on the positive side of things, blow things up not down"
|              |                                   | -- Ragnar Benson |
|              |                                   |                 |
| nbk2000      | posted November 06, 1999 03:13 PM | You shouldn't be able to smell it unless your putting it right up to your nose. And then it should have a slightly acrid smell.
| Frequent Poster |                                   | Wash it very well. I did mine by running a thin stream of cold water from the tap and washing the crystals for a couple of minutes on the filter. Pure white sparkling needles.
|              |                                   | "The knowledge that they fear is a weapon to be used against them."  [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)
dlwdaw  
Frequent Poster

is putting up to your nose bad?
I hope not.
and mine are pure white.
I dont know why every book I ever read on HMTD says "wash the
crystals good with lots of water"
or something to that affect, HMTD does not appear to be crystals,
but AP is crystals.
and I think I'am switching from HMTD to AP for good, I get a HUGE
yeild with AP, but its not so good with HMTD

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not
down"

-- Ragnar Benson

p0rn7aR  
Frequent Poster

my AP dont stink at all

megalomania  
Administrator

Using the word crystals is a generic term meaning anything solid,
there are many different types of crystals, acetone peroxide is just
more stereotypic.

------------------
Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania

Dr-D  
Frequent Poster

My batch of AP ended up being a flop because I didn't make
enough, and they stuck to the filter paper. (when i was rinsing it)

How do you filter it/with what and how do you get the crystals off
of the paper!??!?! grrr please help me out here.
dlwdaw
Frequent Poster

posted November 07, 1999 04:45 PM

I wasted about 1g of AP because I couldn't get it off the filter. I got the large amounts off, but there was still a thin layer on it. I suggest making a very big batch, I just let some off, and it is very not strong.
I let off about 2 or 3 grams, then I let off about 5. and if you want AP for firecrackers and loud bangs, forget it. it might have nice power, but it isn't loud at all.
well I guess that's good.
and I let off about 4 grams of hmtd under a 2 pound log, it was fucking sweet.
the log flew about 5 to 10 feet in the air, and there was a fair size crater in it, and an even bigger crater in the ground!~!~!
if you can, make HMTD, it is ALOT more powerful

-------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

Ve He MT
Frequent Poster

posted November 07, 1999 07:52 PM

AP likes a nice confinement in order to do more damage, but HTMD is indeed more powerful. When I ignited 1 gram of AP putty it was quite loud.

Blaze
Frequent Poster

posted November 07, 1999 10:33 PM

If you get the correct mixture of ingredients (not easy), I think you'll find you get more HMTD in 1/4 the time as AP.
also it forms out as far finer crystals therefor looks like a smaller yeild, (you would of noticed AP compresses down to like 1/5th its original volume.) and of course the higher the density the higher the det. velocity, sharper the noise and more brisance.
But hell ... AP's still a lot easier to make aint it..
yeah i am going to have to agree with you on that on blaze. making AP is so much easier than making HMTD. ALL of the chems for AP are available just about any where but for the life of my i just can't find hexamine. so i favor AP but i WOULD choose HMTD over AP if i could make it.

----------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

----------

To filter AP use a T-shirt, a little of it gets stuck in the fabric, but it is a great filter. Much better than a paper filter.

----------

Want to learn how to make homemade explosives, weapons, and poisons? Come to my website!
http://www.seduced.to/fuckyourmother

----------

Yea, cloth lets the liquid through a lot faster then filter paper. I too use a small piece of cotton cloth to filter the crystals.

----------

Aceton peroxide, HMTD, benzoyl peroxide all have the same smell of peroxides.
Kind of sour smell, like acetic acid...

----------

Those people who tell you not to take chances they are all missing all what life's about...
<table>
<thead>
<tr>
<th>Author</th>
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<tbody>
<tr>
<td><strong>jon doe</strong></td>
<td>posted November 11, 1999 05:03 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td>Hi all you smart people here at the forum, Can anybody tell me what i can put in the end of a hollow point .22 to make it explode on impact.... I've heard of using mercury fulmate and RDX and even mercury it self...but if u use mercury u poison the animal and the two previous are a little to hard to make....can't any pyro out there tell me what i can use.. would KCl (match heads or diet salt) be explosive enough? What about the surphorous mix in caps for toy guns? would cordite even be sensitive enough? Your knowledge is gladly apreciated...thanx</td>
<td></td>
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| **Dr-D**        | posted November 11, 1999 05:56 PM |
| Frequent Poster |                           |
| Uhm. Not sure thats too safe of an experiment there, but maybe someone knows what is used/safety. I personaly wouldn't try to make any explosive bullet for fear that it might explode when you try to fire it out of the gun and take you with it. Toy cap gun mix is way to senstive to use. |
| IP: Logged      |                           |

| **Igenx**       | posted November 11, 1999 08:32 PM |
| Frequent Poster |                           |
| I know that there is a safe manner to produce explosive bullets. I have seen them for sale in a couple differnt stores and on the net. Al of these bullets are .38s and larger, I DON'T know that these will work in smaller guns, espessially a .22. These work because the explosive (?) is not sensitive enough to detonate from being propelled down the barrel, but sensitive enough to detonlate on impact. |
| IP: Logged      |                           |
Bullets under .50 caliber don't have any greater damage effect with an explosive filler than without. That's why the military doesn't use explosive bullets under .50. Something as small as a .22 would be worse off with an explosive than without it. Less weight, and the hole being plugged up means the bullet would in effect be the same as a .177 solid pellet. And just as effective. Looking at the .22 bullet in my hand, I see that the hollow point is about the size of a ball point pen tip. Miniscule.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

Seems to me I remember a small anti-tank weapon of small caliber w/ caseless ammo. Something like a tripod mounted .223. I think I remember a two man unit could carry the weapon, supporting hardware and 5000 rounds of ammo. It's been a while since I saw the page so my info may be a little askew.

well i do not know how big the hollow point is in the tip of a .223 bullet but i can say for sure that the holes in the tip of a 9mm bullet, .45 or 44 bullet are big enough to load with a explosive material. in fact i have a magazine that sells ammo specificly for you to load explosives into the tip.

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.
I had an old SWAT magazine that tested these explosive bullets and the conclusion was the bullets weren't any more damaging than regular hollowpoints. The pictures showed that the explosive bullet holes weren't any bigger than regular bullets. The whole explosive bullet thing is really just an advertising gimmick to sell 10 cent bullets for $3 each.

If your concerned about making every shot count, then poison them.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

What about large bullets though? If you were going to make one for large caliber what is used in those?

I tried to find the page that I got the info from before, I couldn't. However, in the info I did find I think the projectiles may have been 7mm or so and what I do remember they had explosive cores, not hollow points. Seems to me the projectiles were much longer than conventional ammo. If anyone can find a page referencing this I would like to have the address. It bugs the shit out of me when my brain stops working.

I might be mistaken but I think the only reason a hollow point bullet is filled with an explosive material is to make the point expand much more violently than it already does. Now I am talking about bullets like the 45's and the 9mm. Or possibly make the bullet break apart so it fragments. I do not think the actual explosive is supposed to do anything in the way of actually damaging the target.

------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

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<td>AfterRain</td>
<td>posted November 15, 1999 12:51 AM</td>
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Where can I find a Chart of household chem's. with the sci. name? like it will say like chem. name household name acetic acid ---vinegar .... I need a list of like 150 or more... Thanks alot!
[url]http://surf.to/AfterRain[url]This page is under mad work!/[url]

All times are ET (US)
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<td><strong>Feticidal Fantasy</strong></td>
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**darc ey**

- Frequent Poster
- posted November 14, 1999 03:43 AM

If i take a metal powder such as magnesium and add it to a ANFO or ANNM bomb will it make it more powerful and cap sensitive? I recently obtained an amount of metal powder which i'm not really sure what i'm going o do with. I read something ages ago about adding metals to high explosives to make then more powerful but didn't know if it was true. If it does make it more powerful how much would have to add to a 300 gram ANFO charge?? or is it purely up to me??

also what happens when you mix dry Kno3 with magnesium powder? I was reading a document on making rocket igniters and it said never to mix the two when both dry. Why is this? is this a sensitive explosive? or is it just bullshit?

**Kalium**

- unregistered
- posted November 14, 1999 06:43 AM

I use an mix of sodium chlorat and Magnesium 1 to 3 by volume.It make an nice explosion.

**Feticidal Fantasy**

- Frequent Poster
- posted November 15, 1999 01:42 AM

I am not sure about mg, but I belive that adding powdered aluminum to AN and AN compounds does give it added power.

Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."

**darc ey**

- Frequent Poster
- posted November 15, 1999 05:02 AM

crap!! i have about 1kg of Al powder but i got sick of it being round doing nothing so i threw it on the fire!! Although it was pretty specky. All i have is magnesium powder, would this work?
**Blaze**  
Frequent Poster

| posted November 15, 1999 05:42 AM |

Yeh, magnesium will work in place of Al, not that I've done it.. but there pretty interchangeable..  
should go off with a hot white flash, but although it might be cap sensitive  
don't expect to achieve complete detonation with a small homemade cap.  
use a decent 10-20 grams of primary ... think matchbox size...

---

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SIMPLIFIED PYRO CHEMISTRY:

Basicly when chemical elements combine, two types of equations are useful to pyrotechnics. These are the weight and heat equations.

Chemical elements are the most basic combinations of electrical particles which make up the stable matter we can touch and feel.

The chemical equations for already combined elements, which are called compounds, are grouped in two families, in chemistry books, organic and inorganic. Organic are those containing the element carbon and the inorganic are those which do not contain carbon.

The way for pyro's to find the proper equations for chemical compounds, or for elements is to look them up in books. A good one is the "Handbook of Chemistry and Physics" published by the Chemical Rubber Publishing Co. It's a very fat little book, printed on very thin paper pages, and older editions of it going back 50 years are still useful for inorganic chemical uses. Most libraries have copies of it. You can also get them at flea markets or used book stores.

A simple equation is used for illustration:
Zn stands for the element Zinc,
S stands for the element Sulfur
Let us combine these elements to demonstrate the use of the two types of equations.
The first equation regulates the amount of each element that must be combined to make things work best. If you have the wrong amounts you get partial combination, and poor reaction for pyro uses.
The reaction formula is:
Zn + S = ZnS
Which says one molecule of Zinc + one molecule of Sulfur combines to form one molecule of Zinc Sulfide. The number of molecules of each is the same on both sides of the = sign, so its a good formula. Whether it will actually work must be
Look up Zinc Sulfide in the "Physical Constants of Inorganic Compounds" part of the book and it says:

Name, Zinc Sulfide; Formula, ZnS; Mol Wt, 97.45

Do the same for Zinc and for Sulfur: The elements are in the inorganic section of the book:
Zinc Zn Mol Wt = 65.28
Sulfur S Mol Wt = 32
(Notice that book lists S8 as the preferred way for sulfur atoms to clump together, but we are only interested in what One atom of the element weighs so we divide the 256 mol wt it lists for 8 S atoms by 8 to get 32 the wt of one. Most books will list the wt of S as 32 without bothering to mention it likes to group into bunches of 8. This bunching is not very important for elements in this formula.) We could use the S8 just as well and the formula would be 8 Zn + S8 = 8 ZnS which is the same only the quantity is now 8 times as much as before but the RATIOS are the same, meaning one Zn for each S.

You can't mix one molecule for its too small, so we use the formula wt. It's the weight of the compound which contains 10 to the 23 power of molecules or atoms. 32 grams of S contain the same number of atoms as does 65 grams of Zinc. This means each Zn atom can find a partner S atom and none get wasted because they can't find a partner.

So our formula now is Zn + S = ZnS
put the formula weights in 65 + 32 = 97
This says weigh 65 grams of zinc (as a powder usually) and mix it with 32 grams of Sulfur (as a powder usually)
Mix well, and if ignited it will burn to form 97 grams of Zinc Sulfide (as smoke usually)

The heat of formation formula gives the heat involved: The heat required to form any compound is listed in that book as "Heat of formation for compounds".

Zn being an element is not listed because elements have no heat of formation for they are not compounds yet. Its value is 0. (This statement is accurate enough for pyros).

S is a element and its heat is 0

ZnS is a compound and its is listed as 45.88 Kilo Cal per mole wt or formula wt (meaning 45,880 calories per 97 grams of ZnS compound formed. That is not a negative number so that amount of heat is created when that compound is formed. Had the number been negative then that amount of heat would have been absorbed from the surroundings when it was formed, and stored in it as a form similar to the energy stored in a clock spring when it is wound up tight. That stored energy can be released when a negative compound is again converted back to elements. On this matter of heats, be aware that...
when you find a compound that has large + numbers, like several hundred calories per gram of mixture, the heat released is getting explosive, and if over a thousand it can be a dangerously explosive compound. The infamous armstrong compound has a number around 1500. It is well known for the many chemists it has scorched, and blasted apart, when formed by mixing chlorates with red phosphorus. Large calorie numbers tend to create so much heat that things "go off" very quickly, and very violently.

Back to our example:
The formula is:
Zn + S = ZnS
the heats are 0 + 0 = 45 Kcal
so there is no heat on the left and 45,000 on the right so its all created when these elements burn together.
That amounts to 464 calories per gram which is a lot of heat and this mixture could be expected to react violently. In fact is burns about as fast as poorly mixed black powder, and radiates a lot of heat from the incandescent cloud of ZnS formed. It is dangerous to light with a match for your hand will usually get burned from the flare up. It is not very explosive for all the products are solids. Gasses are needed to make strong explosions. This is not an explosive although it makes a helluva fire.

When writing formulas 2 Zn would mean two molecular (or formula) wts of Zinc, etc.
Some compounds travel as a family unit, like the nitrate group. Its formula is NO3 meaning one nitrogen atom and 3 oxygen atoms like to stay united and move as a unit unless a particular mixture causes them to split apart. They split apart easily, so that group is very useful to make explosives as they split and give up their oxygen easily.

Such family groups are written in formulas of compounds as (NO3)2 for example, if 2 such groups must be contained in a formula. The number AFTER the ( ) tells how many groups are included in each molecule of that compound. The number BEFORE the compound tells how many molecules of the compound must be used to make the formula balanced. If its not balanced things do not work as fast and some will be wasted for lack of a partner.

Ca(NO3)2 + 3S = Ca0 + 3S02 + 2N is an example of a compound that contains two groups of nitrate in each molecule of calcium nitrate.

Note, Ca(NO3)2 = 1 Ca + 2N +2x3 O atoms. You always end up with the same number of atoms each side of the equation when all is balanced and every atom gets a partner in the reacted result, or it ends up as an element.

The formula says 2 groups of nitrate (NO3) combined with one atom of Ca, sometime in the past, to make the calcium nitrate you are using to start with. Lots of heat was given off when it did that for its heat of formation was 225. That heat was already lost, and its going to be reabsorbed when
that compound splits back up in this equation. That heat will be taken from the heat formed by the products on the right side of the equation. What's left over is the heat this reaction will create. More on this later.

In this equation, one molecule of calcium nitrate mixes with three atoms of sulfur to make one molecule of calcium oxide (lime) and one molecule of sulfur dioxide, a very stinky gas, and 2 atoms of Nitrogen gas.

balancing the formula so equal number of elements appear on both sides of the = sign:

\[ \text{Ca(NO}_3\text{)}_2 + 2S = \text{CaO} + 2\text{SO}_2 + 2N + O \]

That lonely O on the right side can burn some S if I mix a bit more S into the batch. To find out the right mix I have to play with the numbers till I get the O used, but still have the same number of elements on both sides of the = sign. Much trial and error playing results in this formula:

\[ 2 \text{Ca(NO}_3\text{)}_2 + 5S = 2\text{CaO} + 5\text{SO}_2 + 4N \]

On the left there are:

2 Ca and 2x2N and 2x2x3O and on the right there are

2 Ca and 4N and 2+5x2 O and 5 S so it balances

Looking up the formula wts:

\[ \text{Ca(NO}_3\text{)}_2 = 164 \]
\[ S = 32 \]
\[ \text{CaO} = 56 \]
\[ \text{SO}_2 = 64 \]
\[ N = 14 \]

Putting them in the formula:

\[ 2 \text{(Ca(NO}_3\text{)}_2) + 5S = 2\text{CaO} + 5\text{SO}_2 + 4N \]
\[ 2x164 5x32 = 2x56 5x64 4x14 \]

So the right mixture is:

328 grams Ca(NO3)2 mixed with 170 grams S

Note if the formula is right the wts on each side of the = will be the same.

\[ 2x164 \text{ gms} + 5x32 \text{ gms} = 2x56 \text{ gms} + 5x64 \text{ gms} + 4x14 \text{ gms} \]

488 = 488

Now look up the heats of formation:

\[ \text{Ca(NO}_3\text{)}_2 = 225 \]
\[ S = 0 \]
\[ \text{CaO} = 151 \]
\[ \text{SO}_2 = 75 \]
\[ N = 0 \]

Put them in the formula:

\[ 2 \text{(Ca(NO}_3\text{)}_2) + 5S = 2\text{CaO} + 5\text{SO}_2 + 4N \]
\[ 2x225 5x0 2x151 5x75 4x0 \]

all heats on the left of = must be subtracted from all heats on the right side of =.

450 = 302 + 375

450 = 677 which means we get a net excess of heat on the right side amounting to 677-450 = 227 Kcals for an input of 488 grams of stuff so the reaction gave 227/488 or .5 Kcal per
gram, or 500 cal per gram of the mixture, which is a lot.

This mixture could be expected to make a lot of heat, and might go fast, but you would have to try it to be sure. The amount of heat warns you to be careful. Nitroglycerine delivers about 600 calories per gram if my memory serves me correctly, but I don't have time to look that up now.

The amount of heat formed suggests how fast the reaction may go but is not the only thing controlling it. Nitroglycerine goes in microseconds, but the mixture above might take seconds to go. Test to find out, unless you are acquainted with very advanced chemistry calculations. Test in SMALL quantities, so if you are surprised, the surprise will be physically small.

As an example of a violent reaction which everyone tells you to be wary of mixing:

\[
\begin{align*}
K\text{CLO}_3 &= 122 \text{ gms/mole} = 90 \text{ Kcal/mole} \\
P &= 31 = 0 \\
P\text{O}_5 &= 142 = 365 \\
K\text{Cl} &= 75 = 104 \\
10 \text{KClO}_3 + 12 \text{P} &= 6 \text{P}_2\text{O}_5 + 10 \text{KCl} \\
\text{wts} &= 10\times122 \times12\times31 \times6\times142 \times10\times75 \\
&= 1220 \text{ gms} + 372 \text{ gms} = \\
\text{heats} &= 10\times90 \times12\times0 \times6\times365 \times10\times104 \\
&= 900 \times2190 \times1040 \\
&= 3230 \text{ so there is an excess of 2330 Kcal for} \\
1220+372 &= 1592 \text{ grams of mixture or 2330 Kcal/1592 grams, or} \\
1.463 \text{ Kcal/gm or 1463 calories per gram, which is a hell of a} \\
\text{lot of heat, so expect this mixture to be dangerous. In fact it's famous for its dangerous nature.} \\
\end{align*}
\]

It has burned almost every person who fooled with it. The reason it's so dangerous is that phosphorus is almost ready to spontaneously combust at room temperatures. Its molecules are already vibrating so violently that they are near the impact velocity needed to react with most other element near them, and chlorates are also vibrating so violently they can give up oxygen to anything rather easily. The combination is a recipe for disaster.

If you were mixing it at 300 degrees below 0 F it would be as tame as other compounds we mix. Sulfur is a bit farther than is phosphorus from its reaction temperature at normal room temps, but it's close enough to make sulfur/chlorate mixtures quite touchy. Both sulfur and phosphorus slowly react with oxygen in air, and the oxides absorb moisture from the air, to make acid which GREATLY increases the rate of oxidation as the chlorate then begins to give off its oxygen more easily.

Such mixtures must have a small amount of basic material added to them to neutralize the acid to make them storeable at all. Chalk, or soda or some other easily decomposed
carbonate is usually used to get rid of the acid as it forms. Many pyro mixtures call for carbonates to keep acids neutralized. About 1% of the mix wt of carbonate is added to stabilize it. Both mixtures are sensitive to friction.

The P mix is so sensitive you will get burned by it usually if you handle it at all roughly. Grinding it always explodes it. Sulfur mixes are less touchy, but won't tolerate grinding. Both are sensitive to blows, and to flames or sparks. They are considered too touchy to use, by experienced pyros.

The only commercial use for chlorate sulfur mixtures I can recall was the old railroad torpedoes that were put far down the tracks from danger to warn approaching trains. They were made from chlorate sulfur mixes that exploded with a roar when metal train wheels ran over them. They had additives to keep them safe for normal handling.

In the Vietnam war American military idiots made chlorate phosphorus filled pouches and stored them in freon tanks and dropped them on jungles so anything walking on them after the freon evaporated exploded them. They would take off an animal's foot, and were used to warn our listening devices that something was walking around along trails used by enemy troops. Some test dropped in the ocean in Florida, washed ashore on a public beach. A soldier sent to pick them up was killed when he threw a box of them on his truck. They had dried out enough on the beach from both the water and the freon, to go off. When one went the whole box went, and he also went.

This ended up a bit long, and I hope it all posts without being truncated. We'll see...
About how much ammonium nitrate is in one cold pack? (the sport injury ones) Is this pure ammonium nitrate? do they sell any other cold packs with other shit in them? i don't want to buy 10 packs and find out its not ammonium nitrate.

Just a quick word of advice, be very careful when buying explosive materials. Today i was ringing around to find prices on ammonium nitrate. I had a good story (peach trees needed nitrated soil) and all when well until i asked if they sold it in small bags then 50kgs. The man's tone changed and told me that it was illigal to buy under 50kgs at a time, he then asked my name and if i wanted to him to order some. I could tell that something was up so i made my excuses and promptly hung up. Just be careful and never give your name.

---

Ho ju, when you used the ammonium nitrate from the cold packs did you wash it before using? If so did you use the cold water or the denture alchol method? Did it work?
The AN found in instant cold packs is pure and in the prilled form. You get about 1 - 1 1/2 cups. I have never used it for explosives, but I have made Lowry's AN smoke bomb without washing it and it worked great.

---------------------
Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."

Thanks for that you have been a great help.
has anyone used the cold pack AN to make explosives with? Did you have to wash it?

no i did not use the ammonium nitrate i was just curious and that is all? 😊 sorry.

---------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.
-The beatings will continue until morale improves.

FF how do you make that smoke bomb?

---------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.
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Just make a solution of AN and water and soak/coat some newspaper with it. Let dry, and light.

http://theforum.virtualave.net/ubb/Forum1/HTML/000226.html (2 of 4) [1/22/2000 1:21:10 AM]
Ho ju  
Frequent Poster

posted November 15, 1999 05:00 PM

Alright now for the technical questions:

- What is the ratio of AN to H2O
- How much newspaper do I use for the given ratio
- How long do I soak the paper for?

Thanks for the help. 😊

---------------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

poison  
Frequent Poster

posted November 15, 1999 06:30 PM

Well make it a well saturated solution, Use it untiil its all gone, You can paint it on the paper with a paint brush just make sure the paper is wet. Then put it on a cloths line if it is summer by you if not put it in front of a fan simple.

Ho ju  
Frequent Poster

posted November 15, 1999 07:02 PM

So I basically super saturate a bowl of cold water. Dip newspaper into the slush drench the paper for a few minutes and then dry it? No room for mistakes huh? That simple? 😊

-Thanks for all the help

---------------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.
well thanks for all your help.

Has anyone used this stuff for explosives? If so could you please post something up here. I just don't want to waste my money on something that won't work.
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<tr>
<th>Author</th>
<th>Topic: fuel explosions</th>
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<tr>
<td>rolf nixon</td>
<td>Frequent Poster</td>
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</table>
| posted November 16, 1999 04:14 PM | ![post icon] ![edit icon] | Gasoline can detonate at a rate of up to 2000 m/s if atomized but if you could add a catalyst it would be possible to reach a much higher detonation rate maybe up to 3000 m/s. So if anyone knows about a chemical that can be used to catalyze gasoline so it burns faster please let me know.

Rolf

| neo             | unregistered           |
| posted January 11, 2000 06:56 PM | ![post icon] | if i wanted to atomize one litre of petrol in a steel container, how much high explosive would i need?? 50gm?? 100gm??

| Ho ju           | Frequent Poster        |
| posted January 11, 2000 10:47 PM | ![post icon] ![edit icon] | it all depends on the type of explosive. what type of explosive would you use or are thinking about using?

--------------------------
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

[This message has been edited by Ho ju (edited January 11, 2000).]

IP: Logged
either a pipe full of HMTD or a bullseye charge detonated with a HMTD cap. I haven't got any other access to other explosives at this time, mainly because I need to use it tomorrow night. Bullseye be ok?, I used it before for a pipe bomb and it worked quite well. I could get some AN but I wouldn't really have any fuel like nitromethane to use with it, I don't really like ANFO. It's too hard to let off.... I can't get any nitric acid either.

i was just looking at NBK2000's page and the conversion of double base powder into a plastic explosive. Do you make it by just adding acetone to the smokeless powder and stir it for an hour?? or did I read it wrong?? Is this anymore powerful then just plain smokeless powder?? Would this be ok for the A.P.E?? can anyone help?

smokeless powder can be detonated with explosives, by adding acetone, it becomes a glue putty like material, that only makes it "plastique" it still works like smokeless powder, but smokeless only deflagrate, you need to mold the putty into a case, use confinement to give it power.

Oh yeah this topic reminds me something I saw on TV years back, it was about new arson technology used by high tech arsonists, the method is kept confidential, not told by media, but the program revealed that the technology involves catalyzing, that's all they know. Maybe this is it, the new tech. (In the TV program, the expert says it burns very fast and violent, concrete can be melt).

Well there's a converter installed on some cars that intend to burn the fuel in the emission again by lowering the flash point of gasoline vapor, it is made of some sort of ceramic or just nickel I can't recall.
I remember seeing that same episode of 20/20. It's thermite. They never said directly what it was, but they showed it in a dish and burning. Definitely themite. There was even a can that was half turned away and you could see "Ther....".

Smokeless powder won't burn, it will explode, if you use a detonator to set it off. No confinement needed. The acetone is to soften it into a putty state. Remember that it's nitrocellulose, same class of explosive as nitroglycerine or TNT.

You would probably want to put the powder in a jar and shake it occasionally till it softens.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

As to gasoline...
Maybe you don't want to make it go faster...
Gasoline and air must be mixed in the ratio of 15% gasoline to 85% air, by weight, for maximum power. This you learn from automobile classes, and carburetors.

Air weighs 8 lbs per 100 cubic ft.
Air is 1/5th oxygen.

Oxygen weighs about the same, and it would take about 1/6th as much by wt for the same amount of gasoline, or about 3% by wt of gasoline in oxygen.

There are about 8 gallons per cubic ft.
So a 1000 gallon tank, with air in it would have 80 lbs air, and need 80/6=13 lbs gasoline. Gasoline weighs about 5 lbs per gallon, so it would need a tad less than 3 gallons.

This would, when evaporated, if ignited, create a pressure of about 30 to 40 psi if my memory still works right. If oxygen was used, the pressure would be much higher, and I don't know right off how high but I would estimate in the low hundreds of psi.

Few 1000 gallon tanks can survive a 30 psi internal pressure. Oil drums will burst at about 10 psi. An experiment done on a 55 gallon barrel, with gasoline sprayed into it in the right amount, and ignited, blew the bottom out like a tin can that had been opened with a knife and the lid left hanging with a little bit uncut. The barrel went up to a height of about 30 ft, and came down almost on the fellow's car. He was not happy.

He then tried a 30 gallon water tank with the 2 inch bung hole left open. It lit and caused a flame about 3 ft long to come out the bung hole, and made a roar

like a jet engine. The tank showed no undue bulging for it was tested to 150 psi for water use.

Buildings built to withstand nuclear blast will stand about 5 psi internal pressure, and maybe double that external pressure. Hardened missile sites seldom can take more than 50 psi in or out.

Therefore, gas explosions in normal buildings develop about 30 psi peak pressure, and can disassemble the building into the original planks and bricks etc, and accelerate some of them to carry them about 100 yards. This is why they tell you to beware gas leaks.

The difference between gasoline, and propane, and natural gas is trivial as to blast, but it takes slightly different mixtures for max power.

experimenting with gas explosions ought be limited to ballons of a gallon or two size, unless you want neighbors to come bitching.

Acetylene is different. a gallon mixture with air will make a loud blast. Mix it with oxygen and one gallon lit can blast out windows within 20 ft of it. Dangerous to play with unless you use humidity to keep static electricity down.

sewer gas (farts) now and then accumulates in sewers under streets. Saw news pix of one that blew, and it opened up the whole street for almost a mile, and laid all the dirt neatly to each side of the center sewer (8 ft diameter pipe) piled on top of cars parked along the street. Owners were not happy.

moral of that story is dirt cannot withstand 20 or 30 psi.
Smokeless, when properly detonated, explodes at 20,000 FPS, comparable to TNT. Obviously a loose powder has to be confined so it can be exploded. But putty doesn't suffer that limitation. But there is a minimum size that would be necessary to ensure the shock detonates the putty before blowing it apart. All explosives have this requirement, some more than others.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

I'm disappointed guys...

In my post on gasoline mixtures above, I made a glaring error that I wanted to see if anyone would catch.

Nobody said anything...

The error was "in your face" and one that folks who tinker with explosives ought have noticed right off.

It was:

"Air weighs 8 lbs per 100 ft3

There are about 8 gallons per cubic ft. So a 1000 gallon tank, with air in it would have 80 lbs air, and need 80/6=13 lbs gasoline. Gasoline weighs about 5 lbs per gallon, so it would need a tad less than 3 gallons."

The error was substituting the word gallon for cubic ft in the size of the tank.

If it was gallons, using the data given next to the error, there would be 1000/8=125 ft3 volume, and that volume would weigh 8x1.25 or 10 lbs, and that wt of air would need 10/15 lbs gasoline, or about 10 ozs.

The error was on the safe side in case anyone tried it without checking the numbers themselves, which apparently no one did.

The gallons of gas cited was for a 1000 cu ft tank, and if put in a 1000 gallon tank, it would not go because it would be about 8 times too concentrated. In a car this is known as a flooded engine, and it won't start because the mixture won't burn at all.

A point to notice in the corrected data is that it takes very little gasoline to create a blast.

The other point is that the blast of gasoline has about the same energy content as roughly double the weight of gasoline in other
explosives that have the oxygen inside them.

So 10 ozs of gasoline in a 1000 gallon tank would have the energy release equivalent of burning 10 oz of glycerine in nitroglycerine, or 10 oz of toluene in TNT, etc. The energy difference in the various fuels is not all that much. How much TNT it takes to contain 10 oz of toluene can be calc from its formula.

remove the wts of nitrogen and oxygen, and the rest is the toluene.
same for nitroglycerine.

Roughly, a gallon of gasoline = 5 lbs depending on its mix, and that would require about $5 \times 15 = 75$ lbs air, or $75 \times 20\%$ or 5 lbs oxygen. So a gallon of gasoline and enough oxygen to fire it would equal about 10 lbs of explosive, or about the same as a 20lbs of 50% dynamite, or so.

So you can see that properly mixed, gasoline is a fairly powerful explosive. Same goes for dust explosions using flour, starch, seed dust, etc. These explosions usually wreck buildings containing them, and severely burn occupants.

On that note, a very serious burn can be obtained in milliseconds from a pressurized flame that you would be exposed to in a fuel air blast.

I recall using a leaking hand propane torch to solder, and it created a bubble of "right" mixture around my head, as I was looking close to see what I was doing. It went of with a loud pop, not all that impressive, but my face began to sting, and it had gotten 2nd degree burns which came alive with pain in about 10 seconds. Really a freak accident, but it sure put the religion in me about gas leaks.

Incidentally the propane in the 14 oz tanks for torches does not always contain the stink to warn you its leaking. I had some that didn't stink, and that led to the accident. The fitting that held the torch head on had partially loosened so a tiny leak was going all the time I was soldering.

Folks who throw gasoline on a pile of brush to start it burning often wait several seconds before they light it and get a bang for their buck that they didn't expect. The fumes can be all around your feet in seconds, and when they go, you can be inside a pressurized fireball for a fraction of a second. Burns can be severe...
dlwdaw
Frequent Poster

posted January 16, 2000 07:43 PM

I don't read fart's posts either. way too long..

-------------------
~ dlwdaw

"Tick, tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting

nbk2000
Frequent Poster

posted January 16, 2000 09:33 PM

Testing people is not a very cool thing to do. It almost comes across as being elitist.

You've been posting good information so far, just don't get snobby and everythings cool.

And I'm curious, why haven't you registered yet? Of course, you don't have to, but it would be a sign of commitment to the forum.

-------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

madpie
Frequent Poster

posted January 18, 2000 05:13 AM

i fuckin commited and because search is/was down i got told i ain't happy
and not mentioning names but a very regular regular requested me join!

HMTD Factory
Frequent Poster

posted January 19, 2000 05:48 AM

It wasn't really an error, it's just frustration not getting any response after saying that much, turned into "Oh you guys suck, you didn't find out". After all he wrote another long one to explain the error, I hope there is no more error in that.
you have all gone off topic again....and still haven't answered my original question.

How much high explosive will i need to APE one litre of petrol???

I've seen a FAE patent that used 2-liter soda bottles that had a burster of 50-grain primacord long enough to fit inside a PVC pipe inside the bottle. So, in answer to your question, less than an ounce of HE will do the trick. Just make sure you get a high order detonation the whole length of the container.

BTW, what is the steel container? If it's a pipe or pressurized container, you're going to need a lot more explosive. If it's a soda can type, than an ounce should work just fine.

As for Fart, for all we know he made an error and, at a later time having realized it, he then made the correction and the original error became a "test". Very clever.

"The knowledge that they fear is a weapon to be used against them."
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Thanks for the comments fellas...

Good feedback...

I suppose I was expecting too much to escape the usual flame which some forums lay on one who posts an error. Yes it was an error, but I did not correct it just to see what would happen.

However I do make errors which I do not catch. So do experts. The "expert" who calculated the minor probability that one would catch aids form a mosquito bite, out of CDC made a "slide rule error" of tenfold, so his highly published official statement from CDC that there was very low probability was in fact not very low at all. Judging from the questions I took this forum to be populated with beginners, and took the time to try to assist them, which I would have liked when I began my experiences with explosives.

I will close with one piece of well learned advice...
Do not play with things which can kill you if you do not rather fully understand them.

Also check what you read before using it. The net garbles text as do the writers. Some writers cannot even spell... not a good sign of a careful person.
Take care, and good luck.

Ve He MT  
Frequent Poster  

posted January 19, 2000 07:41 PM

I would not discourage someone from writing such long and informative posts. The information is there, and people can either choose to read it or ignore it. But if you plan on actually doing something, it would be best if you had that kind of information around.
can you dry HMTD faster? - The Explosives and Weapons Forum

is there a safe way of drying HMTD quickly?

is there a safe way of drying HMTD quickly?

is there a safe way of drying HMTD quickly?

is there a safe way of drying HMTD quickly?

is there a safe way of drying HMTD quickly?

is there a safe way of drying HMTD quickly?

All times are ET (US)
can somebody please tell me how to synthesize this and how powerful it is.
Thanks

--------------
dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Well i have a little knowledge of chemistry but i believe i can still be of help to you....

well xylene has similar properties as toluene (used in TNT, TriNitroToluene). They are called "homologous" that is that they have similar properties (i.e. a doulbe bond and they love to burn) as they have "ene" on the end. They are both Alkili. So if you can find out how to make TNT, then you have a fair chance that you could synthise it.

Hope i was of some assistance

......jon doe...happy tails...

- In the end the knowledge we take is equal to the knowledge we make..
There would be a few differences on how much chemicals to use, but you could follow the method of TNT verbatim and get some results. Your yield will differ dependin on if you use o-, m-, or p-xylene.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---

i do not know it if was just a typing mistake but isn't it TriNitroToluene not ...Tolurene?

---

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

---

Separation of the isomers and nitration to tri-nitro stage are techically difficult. TNT wuld be a better choice.

Rolf

---

Actually you do not need to seperate the isomers.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
**Author** | **Topic:** Cellulose insulation
---|---
*I genx*  
Frequent Poster  
posted November 15, 1999 09:49 PM | Can the kind of cellulose used for insulation (under $5/25 ft3 where I live) be used for making nitrocellulose?  
----------------------------------------  
Information needs to be free-killed the f*ckers that try to stop it’s publication!  

| d arce y  
Frequent Poster  
posted November 16, 1999 01:23 AM | why don't you just use cotton? you can buy this inball or sheet form very cheap. Depending on what the cellulose had been treated with you could mosdt likely use it. A friend and i are going to use sheets of paper, think of the uses!! You could evade detection, just carry a pad of nitrate paper, a pipe, end caps and a fuse and volla you have a pipe bomb.  

| d arce y  
Frequent Poster  
posted November 16, 1999 01:28 AM | this nitrate paper would be good for people in jail. Just send them a letter written on nitrate paper every two weeks, nothing suspect about that. After two or three months they would have enough for a bomb then.....breakout!!  

| d arce y  
Frequent Poster  
posted November 16, 1999 01:31 AM | this nitrate paper would be good for people in jail. Just send them a letter written on nitrate paper every two weeks, nothing suspect about that. After two or three months they would have enough for a bomb then.....breakout!!  

IP: Logged
In California you can get a 50 sheet pad sent to you in every letter if you want. There's no limit on the total paper you can get, only in 50 sheet increments.

The problem though is how to set off the nitrocellulose in a high order detonation. You have to use a detonator to do that. Flame ignition will cause it to burn like BP. But that then requires a metal casing to cause an explosion. And metal is something lacking in prisons. Perhaps a few pads could be soaked in a water soluble primary and sent in after enough NC pads had been sent. Detonators can be improvised from pen barrels and fuse from nitrated soaked string.

Of course, the problem then becomes one of using the explosive without alerting every guard about your breakout. And getting access to the outer perimeter. Most California prisons have separate yards, each one with its own perimeter fencing, and all the yards contained within a main perimeter surrounded by a lethal electrified fence 16' high between 2 14' cyclone, razor taped, fences. Not to mention being lit up bright as day with armed guards in towers watching the fence line.

But that's not to say that explosives wouldn't be useful in an escape as a last resort if you encountered some otherwise impenetrable obstacle.

"The knowledge that they fear is a weapon to be used against them." 
www.50megs.com/nbk2000

Or if you thought it was time for a good old fashioned jail riot 😁

jail riots kick ass!!! they are so destructive even without the use of explosives. if an inmate got a tpye of explosive the "jail house would rock" 😛

pardon my crappy ass pun

---------------------
Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.
Are there any other useful peroxide explosives? If you leave gasoline out in the sunlight after a while minute traces of peroxides form inside (enough to show change in the performance in petrol lab tests). I have heard of Isopropyl alcohol forming peroxides and exploding in the labatory from just being out in the air.

Does anyone know of any good peroxides that are like acetone peroxide? (read: anything as stable or more stable than AP)

If so, what is used to react them?

example: These may/maynot be good peroxide bases: isopropyl, toluene, benzene, etc...

Any ideas?

---

OH BY THE GODS NO! There are no explosive peroxides with more stability than acetone peroxide and HMTD. Virtually every organic compound will make a peroxide, and they are all VERY dangerous. That means they WILL explode if made, the can NOT be collected as crystals because they WILL explode. There are some non-explosive peroxides, like benzoyl peroxide.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Heheh ok. Darn, I was hoping that there would be at least a few that were stable. I don't know because all I have heard of are peroxides that form on accident and are extremely unstable/bad. Of course you wouldn't want to mass produce those if just small amounts forming are that dangerous.

This just came to mind... Solids reacting to make peroxides... maybe there is such a thing as napthelene peroxide... since it's a solid it might be more stable, of course, I doubt that it's been tried before or even possible to react with in an easy way... (I doubt there is a stable peroxide explosive other than AP, HMTD, since you informed me that those 2 are about the only ones, but if those exist there just has to be another... I guess I'm just stuck on wishfull thinking here hehehehe)

Some where I heard that benzyol peroxide was infact an explosive, I think it had to be detonated though... And just in case it is, what is the synthesis?

I think I'll search some patents to find out more primary explosives that don't require being nitratated as it seems just about all explosives deal with nitric acid, and finding ones that don't are interesting to me.

Kalium
unregistered

I've heard from Diethylperoxide. It was listen in an German explosive law. I think it so stable how acetoneperoxid. i dont know how to make it.

fa rt
unregistered

methyl ethyl ketone peroxide is a catalyst used to harden liquid polyester resin. Its used a lot by boat makers, and it will decompose giving off O2 gas if stored in a metal container. did it once and it splashed around way too much when I opened the bulged can.

Also the solid usually dyed red catalyst used to harden auto bondo and other putty polyester body repair mixes contains benzyl peroxide. Had an accident with it recently. A tube of it was close to a soldering iron, and it got hot enough to "go off". It did not explode, nor flame, but spewed gobs of hot liquid red plastic everywhere so I couldn't get near it, and it emitted enormous clouds of stinky smoke that chased one away. One 2 oz tube made smoke so dense that it filled a large room to where you could not see anything, and had to get out before the smoke ceiling lowered down to the floor. Nasty stuff. I'm hexed I guess, because that must be a very rare accident as its not mentioned in the warnings on the tube. Stunk up that room for weeks even though I used fans for hours each day blowing fresh air through it.

Near the tube everything was coated with tiny white crystals of something, probably the benzyl peroxide that didn't "go".

In chemistry, the devil bites your ass now ant then when you least expect it.
Interesting stuff there fart, be careful! 😊
I'll check into that Kalium. As for AP, you can find out how to make it at mega's site.

Found this while I was looking around. It is not a peroxide but uses H2O2 to make Hexanitrobenzene. Mega has Di and Tri nitrobenzene on his site, so if your interested in that you could check this one out too.
http://www.patents.ibm.com/details?&pn=US04262148__&s_clms=1#clms

Benzoyl peroxide is very sensitive, similar to HMTD, when it is in its pure form, which is white crystals.

The material used for free radical polymerisation (polyester for example) is diluted, and the soln contains stabilizers (I think NaOH or KOH for this matter, and some gelling compound).

Also, Peracetic acid is popular among organic peroxides.

Inorganic peroxides are sometimes supposed to be used as oxidizers. There is a popular composition using NaO2, I think.

-----------------
Those people who tell you not to take chances they are all missing all what life's about...

Thanks for the tip Dr-D. You mean the ether sunnlight methode? Or does it give an another way to form it?

No NO NO! Kalium, to make Acetone Peroxide follow this link.
http://nettrash.com/users/megalomania/acetoneperoxide.html
If you read this thread more carefully you will see that only acetone peroxide HMTD are stable enought to make and use and that other peroxides are impossible to make and use without exploading as they form.
what you said is kinda of misleading Dr-D. even though AP is stable enough to handle it is still VERY unstable. i got the impression from your reply Dr-D that AP is stable i was just clearing some shit up 😊 if you can, kalium, make HMTD it is more powerful (i think, gots to double check that) and it is more stable BUT IT IS ALSO VERY UNSTABLE.

-------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.

IP: Logged

Dr-D
Frequent Poster
posted November 10, 1999 10:23 PM

Yes, AP and HMTD are unstable. What I meant was that they are stable enough to make- they wont blow up as the form basically 😊

IP: Logged

Ho ju
Frequent Poster
posted November 11, 1999 12:36 AM

alright that is what i thought you said but i was just clearing things up. 😊

-------------------
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IP: Logged

Kalium
unregistered
posted November 11, 1999 12:38 PM

Another interesting stuff is NH2OH Hydroxylamin. Does anybody know how to make it.
And Dr-D the AP works very nice. Do you know how long can i store it in an fridge.

IP: Logged
Dr-D
Frequent Poster

posted November 11, 1999 05:59 PM

AP doesn't store well. After you collect the crystals they will start to vaporize in a few days. If they vaporize inside a container, they will re-crystalize into a super-unstable substance that will blow even when wet. So don't store them dry. If you have to store them I would suggest keeping them submerged with acetone. Or if you need to store them longer make some AP putty. The link below shows how to make it. [http://www.calisland.com/apcg/chemistry/index.html](http://www.calisland.com/apcg/chemistry/index.html)

Either way, you shouldn't store it for extended periods of time.

Blaze
Frequent Poster

posted November 11, 1999 08:05 PM

AP dissolves in acetone ... so can't keep it in that...

Ho ju
Frequent Poster

posted November 11, 1999 09:57 PM

yeah but acetone is very volatile so when it evaporates on't the AP be left? isn't that why it is stored in acetone

------------------

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Blaze
Frequent Poster

posted November 11, 1999 10:45 PM

than it'll be stuck to the bottom and on the sides .. dont think thats what you want..

who stores ap anyway.. i think you'll find you can't resist lettin it off as soon as you can.

Ho ju
Frequent Poster

posted November 12, 1999 12:02 AM

that feeling that you have to detonate it right away is a good instinct to have. storing AP is dangerous and should not be done. so follow your instincts cause they will save you hand arm or maybe even your life.
that feeling that you have to detonate it right away is a good instinct to have. storing AP is dangerous and should not be done. so follow your instincts cause they will save you hand arm or maybe even your life.

-------------

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-------------

I have stored Ap for 3 weeks in an air tight bag nothing happened , it still det ??

-------------

Great minds are't made at school
They are born!

-------------

I’ve stored AP for months in a plastic pill bottle with no problem. I did notice some crystals near the top though, probably from sublimination. Store it wet in water. No problems then. It's insoluble.

-------------

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

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i thought storing AP was a big ass no no? how do you get rid of the water once you want to use the AP nbk? i am assuming you can't heat it for fear of the AP igniting.

-------------

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-------------

Pour it out on a coffee filter. It wicks away the water and dries the crystals quickly. Only very little sticks to the filter. Miniscule really.

You can store AP if you use pure chemicals from the start. I used reagent grade chemicals from a lab supplier so I didn't have the impurities that would cause instability. Using nail polish remover and hair bleach is a whole different story. AP made from that should be used as soon as possible and never stored for any length of time.

"The knowledge that they fear is a weapon to be used against them."

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About AP Putty
The Ping pong balls are really out of nitrocellulose? How can I prove it?
Does it give other things out celluloid?
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Thermite</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetworkNightmare</td>
<td>posted November 08, 1999 11:46 PM  Does anyone here have experience with this? I know it is made with Iron Oxide i.e. (Rust) and finely ground aluminum powder, which is easily made from AL foil ground up. Anyway what is the best ratio to mix it in and where can I get the magnesium required to ignite it?</td>
</tr>
</tbody>
</table>
| megalomania         | posted November 09, 1999 12:08 PM  Good luck getting magnesium nowadays. It was recently put on The List of Bad Chemicals Used by Drug Dealers, so it is a "watched" chemical, I told ya the Grignard Reaction was good. If you buy magnesium from a chem supplier you will be put on The List of Bad People Who Make Drugs and Must be Watched.  
Visit Megalomania’s Explosives and Stuff at http://surf.to/megalomania |
| Kalium              | posted November 09, 1999 12:14 PM  You dont need magnesium to ignite thermit. A sugar sodium chlorate mix with 3 part sugar and two parts chlorate will work. |
| Dr-D                | posted November 09, 1999 02:50 PM  yes, I have heard that sugar+chlorate mixture will ignite it. Also a sparkler should do the trick. Magnesium can be obtained from those fire starter things I belive thats what they are made of.  
BTW- Does chlorate+sugar burn more feierce than say K nitrate+sugar? |
<table>
<thead>
<tr>
<th>Username</th>
<th>Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>posted November 09, 1999 04:09 PM</td>
<td>Dr-D i was going to mention kno3 + sugar until I read your post. Is it possible to ignite thermite with a small pile of kno3 + sugar in the middle of the thermite?</td>
</tr>
<tr>
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<tr>
<td></td>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!</td>
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<td>The eagle may soar but the weasle does not get sucked into jet engines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The beatings will continue until morale improves.</td>
</tr>
<tr>
<td>darcey</td>
<td>posted November 09, 1999 04:26 PM</td>
<td>When I tried the Kn03+suger, it didn't work. If you have any access to school science labs or places like that you should be able to steal some magnesium. Also in camping shops they sell magnesium fire starters, small blocks of magnesium mixed with aluminum that have a piece of flint down the side of them. You can file these and collect the powder, it will ignite thermite but it takes awhile to get a good amount of powder.</td>
</tr>
<tr>
<td>nbk2000</td>
<td>posted November 09, 1999 04:58 PM</td>
<td>A mix of equal parts sulfur and metal powder (Al or Mg) will ignite thermite. Make a tube going down the middle of your thermite and fill it with the mix and cover the top with a layer of the mix. Then pour your chlorate/sugar mix on top of it to ignite it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
<tr>
<td><em>Igenx</em></td>
<td>posted November 11, 1999 08:49 PM</td>
<td>Those firestarters can be ground safely using a grinder wheel with a large cardboard V at the bottom to catch the powder. This wheel must be clean of other materials for this to work without making sparks. It is still corse, but it is much easire to powder once it is in this form.</td>
</tr>
</tbody>
</table>
Dr-D
Frequent Poster

posted November 11, 1999 09:17 PM

Could someone who has made a batch of thermite take a small pile and pour glycerine on it and see if anything happens. This was in a post a long time ago, and I am curious as to what would happen. From what I can think of nothing. But they said it ignited the thermite.

nbk2000
Frequent Poster

posted November 11, 1999 10:00 PM

Glycerine would have absolutely no effect on thermite. It could be used to ignite a permanganate/aluminum powder mix which in turn ignites the thermite. Other than that, nothing.

--------------
"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Ve He MT
Frequent Poster

posted November 12, 1999 01:23 PM

I posted about the glycerine, and to clear things up this is what it concerned.

I saw on Jay Leno a science demo where they ignited thermite by pouring glycerine over it. I posted a question as to what other then potassium permanganate would ignite with glycerine. It was indeed thermite because they had it in steel containers which after a while melted right through the containers (they had some crap underneath it to protect the precious stage :) ). It would appear then that they had some normal thermite with permanganate(with or without fuel) onttop of it or else an incendiary mix capable of igniting thermite(this is if the permanganate isn't able to) on top of the thermite with some permanganate(with or without some fuel) ontop of that. So when they poured the glycerine over the thermite the permanganate ignited causing the thermite to ignite.

NetworkNightmare
A New Voice

posted November 12, 1999 09:21 PM

Thats for all the advice on lighting it, but could you help with the ratio of aluminum to iron oxide i.e. rust problem! What is the best ratio to use for maximum effect.


**Ho ju**  
Frequent Poster  

i have always read 1:1 by volume but i have never made it so someone else's answer should be taken. Could someone tell me what the roles of the aluminum and iron(III)oxide take in the reaction? (i.e. what contributes what to the reaction, or why it burns so hot)

-------------------
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**nbk2000**  
Frequent Poster  

Thermite, one of the most common pyrotechnic incendiary agents, is essentially a mixture of powdered ferric oxide and powdered or granular aluminum. When raised to its ignition temperature an intense reaction occurs whereby the oxygen in the ferric oxide is transferred to the aluminum, producing molten iron, aluminum oxide, and releasing 750 kilocalories per gram. A standard thermite reaction is shown as follows:

8 Al + 3 Fe.sub.3 O.sub.4 = 4 Al.sub.2 O.sub.3 + 9 Fe

This exothermic reaction may produce a temperature of about 3000 degree. C. under favorable conditions. The white-hot molten iron and slag may itself prolong and extend the heating and incendiary action.

Other types of thermite mixtures containing metals and the oxides of other metals other than iron oxide are known: aluminum/manganese oxide (4 Al + 3 MnO.sub.2); aluminum/chromium oxide (2 Al + Cr.sub.2 O.sub.3) and others. Aluminum/iron oxide mixtures (8 Al + 3 Fe.sub.3 O.sub.4) have proved to be the most effective incendiary composition for destruction of steel targets because superheated liquid products are formed by the reaction. These molten products affect a high rate of conductive heat transfer to the steel target and, therefore, cause destruction of the target. Any combination metal/metal oxide capable of high rates of conductive heat transfer can be used.

-------------------
"The knowledge that they fear is a weapon to be used against them."  

Some chemistry books that give heats of formation do not give the units for their tabulations and that can lead to errors.

generally when they say kilocalories they are talking about per formula weight of the compound, as in Kc/mole wt.

when they say calories they are talking about calories per gram.

For a guide, many explosives produce only about 500 calories per gram, but they produce a large volume of gas, and go off fast.

Armstrong explosive produces about 1500 cal/gram, but produces only P2O5, a solid at room temp, but fierce at incandescent temps.

Thermites produce no gas to speak of and the great heat comes from the burning of metals that are very reactive and produce much more heat per gram than the metal oxides or other oxides used to burn them. Aluminum can "take" oxygen from many other less reactive metals, if you can get its atoms vibrating hard enough to overcome the repulsive force between them and the oxidizing agent's molecules.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: dehydration</th>
</tr>
</thead>
<tbody>
<tr>
<td>rolf nixon</td>
<td>Does anyone know an easy way to dehydrate acetic acid into acetic anhydride, not the usual stuff with ketane gas or phosphor-penta-oxide just something simple and easy that can be carried out in the home. Also I am interested in concentrated hydrogen peroxide. I have tried to distill it but accidently I inhaled some of the fumes and that hurted like hell. Now I am looking for a chemical that can absorb the water and leave back the hydrogen peroxide ready to separate. Rolf</td>
</tr>
</tbody>
</table>
| megalomania   | Heh, those are the easy ways... 😊  
------------------  
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |
<table>
<thead>
<tr>
<th>Username</th>
<th>Date</th>
<th>Time</th>
<th>Message</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>November 16, 1999</td>
<td>07:33 PM</td>
<td>would you care to elaborate…just a little? 😊</td>
<td>Logged</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>--------------------------- ---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-The eagle may soar but the weasel does not get sucked into jet engines.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>-The beatings will continue until morale improves.</td>
<td></td>
</tr>
<tr>
<td>Ve He MT</td>
<td>November 17, 1999</td>
<td>03:50 PM</td>
<td>mega meant that the methods that rolf had previously tried were the easy ways.</td>
<td>Logged</td>
</tr>
<tr>
<td>Ho ju</td>
<td>November 17, 1999</td>
<td>04:24 PM</td>
<td>yeah i relized that the moment pushed the submit button. 😊</td>
<td>Logged</td>
</tr>
<tr>
<td></td>
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<td>--------------------------- ---------------------------------------------------------------</td>
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<tr>
<td></td>
<td></td>
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<td>-The beatings will continue until morale improves.</td>
<td></td>
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</tbody>
</table>
A New Voice

Where to find Pentaerythritol?
or
How make Pentaerythritol?
Buy?in the store[where]?
bye!

Survivor
Frequent Poster

Here is a process for making Pentaerythritol:

Pentaerythritol is made by reacting formaldehyde with acetaldehyde, condensing them together with the help of calcium hydroxide.

8 CH2O + 2 CH3CHO + Ca(OH)2 \rightarrow 2 C(CH2OH)4 + Ca(COOH)2

Formaldehyde + Acetaldehyde + Calcium Hydroxide \rightarrow
Pentaerythritol

There is not too much which can go wrong with this reaction, so long as reasonable care is taken to follow the directions. It is, however, very stinky and potentially unhealthful if the experimenter allows himself to breathe in the fumes of formaldehyde and acetaldehyde. This reaction is best done outside with a steady breeze, the "cooker" keeping himself upwind throughout the process. If the watchful eyes of neighbors preclude this, a garage with a strong wind flow is acceptable. This may obscure the view of civic-minded citizens, but their noses are another enemy to be remembered. This process is best done in a secluded area.
To begin production, a clean plastic 5-gallon pail is filled with 2160 grams (2000 ml) of 37% formaldehyde solution, 210 grams (275 ml) of acetaldehyde, and 4 quarts of water. These chemicals do not need to be of a particularly high grade, so if money can be saved by using technical grade chemicals instead of reagent grade, then do so. Also, the formaldehyde solution can be replaced by 800 grams of paraformaldehyde. This solid form of formaldehyde does not have the powerful smell of the formaldehyde solution, but is much more expensive than regular formaldehyde. The 37% formaldehyde solution may be sold under the name of formalin, so be aware of this example of the proliferation of chemical synonyms.

Next, a clean wooden stick must be obtained. A section of broom handle minus the finish is a good example of what is called for here. This wooden stick is used to stir the solution.

First mix the ingredients already in the pail, then begin adding powdered quicklime (CaO, calcium oxide) to the pail in small portions with vigorous stirring. When the calcium oxide goes into solution, it first picks up a molecule of water, becoming Ca(OH)2, and then takes part in the reaction shown above. The CaO should be added at such a rate that the temperature of the mixture rises to 50ø C (a little over 120ø F) within the first half hour of adding the CaO. Then the CaO is continued to be added at such a rate that the temperature of the mixture does not go over 55ø C (about 130ø F). As can easily be imagined, the fumes of formaldehyde and acetaldehyde get pretty intense as the solution gets hot. They get less revolting as the reaction nears completion and the aldehydes get consumed. The total amount of CaO added is 180 grams.

When all the CaO has been added, the stirring is continued at a more leisurely pace for another three hours. This long stretch of stirring is bound to tire even the most dedicated explosive manufacturer so an alternative which can be used where electricity is available is to suspend
an electric drill or similar motor over the pail, and use a clean paint stirrer attachment to stir the solution. The fumes are not especially flammable, so fires are not the hazard they often are when dealing with more flammable chemicals. Even so, rigging an extra long stem for the stirrer, so the motor is elevated above the pail rim, is a wise precaution.

When the stirring is done, it is time to filter the now yellowcolored solution. A large coffee filter fitted inside a plastic funnel will do a good job of this. The total volume of liquid amounts to about 3 gallons. Contained in this 3 gallons, is about 3/4 pound of pentaerythritol. Now the real work begins as the workaholic explosives manufacturer isolates his product from the mixture.

First, the mixture must be made slightly acid. To do this, hydrochloric acid (the 28% strength material available from hardware stores is good enough) is diluted 50-50 with water. Then this diluted HCl is added to the mixture with stirring until the mixture is acid to litmus (turns blue litmus paper red). A good way to do this is to add 100 ml of the dilute HCl right away, and then after stirring and checking for acid reaction, add smaller amounts of acid until an acid condition is achieved. This will convert the calcium formate made in the reaction to formic acid and CaCl₂ and also knock out left over CaO. In these forms they are more easily gotten rid of.

Next, the yellow color can be removed by adding 30 grams of activated charcoal powder (Norite brand is usually used in the lab) and stirring it around for a few minutes. Then the solution is once again filtered so as to remove the charcoal, and the filtrate is clear once all the charcoal has been successfully filtered out. Until then it is black, and the pail is a holy mess. Get a clean pail. This step can be omitted, but a yellow product will result which will be more touchy to convert to PETN without the dreaded red gas being formed. It will also not keep so well.

Now the solution must be reduced in volume so that crystals of pentaerythritol can form. To do this the water and other assorted
smelly gunk must be boiled away under a vacuum. Formic acid and the unreacted aldehydes will be eliminated in this process. The first step in this adventure is to get a large enough container to hold the reaction mixture for the boil down. 5-gallon flasks are not commonly available to the public, but a good substitute is one of those thick glass water jugs often seen in offices for the water cooler. This is about 5 gallons in volume, and has a narrow opening which can be plugged with a onehole rubber stopper, and attached to the vacuum source (either aspirator or water bed pump).

To get this process going, put the reaction mixture into the glass jug along with a couple small pieces of a Dr. Scholl's pumice footstone (to ensure an even boil) and a chunk of paraffin wax the size of a small grape (to control frothing). The jug should be heated by means of steam, which can be supplied from a pressure cooker by filling it half full of water, clamping a section of automotive hose to the outlet on the lid where the weighted pressure control usually sits, and piping the steam produced from heating the pressure cooker into a cowling surrounding the jug.

The jug should sit in a large pan and be lifted off the bottom an inch or so by use of a few wooden blocks. The steam hose is run under the jug so that the steam rises up around the jug to heat it. The cowling can be as simple as a plastic garbage bag draped around the jug. A drain hose should run from the bottom of the pan to a drain or sink to carry away the water formed from the condensing steam.

When the jug is reasonably warm, vacuum should be applied to it and the heating continued. The contents of the jug will begin to boil away. This should be continued until the volume of liquid in the jug is reduced from 3 gallons to one gallon. Then the heating is stopped, and when the boiling ceases, the vacuum is removed.
Now that the liquid has been concentrated, crystals of pentaerythritol can form. Just let the jug cool off in the refrigerator overnight. In the morning, the crystals can be filtered out.

The liquid that filters through contains more product. This can be obtained by boiling away until the volume of the liquid is halved, i.e., reduced to 2 quarts. Upon cooling, a new crop of crystals can be filtered out. Repeating the process again, and boiling away the liquid down to one quart gives, upon cooling, another set of crystals. The remaining liquid can then be flushed down the toilet.

The crude product should be purified before use in PETN production. To do this, it is weighed, and an equal weight of distilled water is put into a stainless steel pan, or large pyrex beaker. The volume of water will be about a pint. The water is heated up on the stove, and the crystals are put into the water, along with 10 ml of hydrochloric acid. Mix them around until they dissolve, and boil just a little bit. Upon cooling, a large mass of crystals will appear. Filter them out. The liquid should then be concentrated down to about half its starting volume, and then cooled. Another crop of crystals will appear. By repeating this process a couple more times, about 350 grams of pure pentaerythritol will be obtained. It may be somewhat yellowish, but will work for making PETN. This product should be spread out on wax paper and allowed to dry thoroughly before use.

Ref.
Home Workshop Explosives
by Uncle Fester

----------
/Survivor
Survivor@netlimit.com
----------

bom
unregistered

posted November 08, 1999 10:00 AM

Finds your of Pentaerythritol in the stores?
so how much does Formaldehyde + Acetaldehyde coast and where can i buy these chemicals.

also how fast does Pentaerythritol light

---

Penta costs $30 a kilo from my supplier. And no hazardous shipping either. You would have to send them a copy of your business license and bank account info though to prove your a business. I'm not, but I've got a grandfather account since I was doing business with them, before the laws changed, for the last 10 years.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

---

Does anyone have the procedure to make pentaerythritol that does not require acetaldehyde?
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: explosives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>wacky99</strong></td>
<td>posted November 18, 1999 03:11 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can somebody tell a good pyro book for a beginner and how to make a bomb out of home materials.</td>
</tr>
<tr>
<td></td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Al Koholic</strong></td>
<td>posted November 18, 1999 05:12 PM</td>
</tr>
<tr>
<td>unregistered</td>
<td></td>
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<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td><strong>Ho ju</strong></td>
<td>posted November 18, 1999 06:50 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i do not know about the &quot;house hold&quot; chemicals but you do not need any specific book. the info on this forum and the related websites that belong to the people that post here have better info than any book (or &quot;crap book&quot; as mega refers to them on some of the topics on his web site&quot;) you can find. besides the info ont his forum and the websites contain all that info (plus most of it has been edited for accuracy and safety...well some of it anyway)</td>
</tr>
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<td></td>
<td>-----------------</td>
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<tr>
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<td>-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!!</td>
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</tr>
<tr>
<td></td>
<td>-The beatings will continue until morale improves.</td>
</tr>
</tbody>
</table>
what kind of household materials are you talking about?
my households are
27% hydrogen peroxide
31.35% hydrochloric acid
93% sulfuric acid
100% acetone
toluene
xylene
denatured alchoh
sodium nitrate
water

those are my only household ingredients that can be made into explosives.
a good pyro(not explosives but real pyrotechnics like fountains etc) book is "introductory practical pyrotechnics" by tom pergerin, it is available at [www.skylighter.com](http://www.skylighter.com)

and lets see why do you want a bomb?
I like to call them explosive devices, sounds more professional.
and a great bomb can be made out of materials that shouldnt be too hard to aquire, here it is,
get a plastic pipe with 2 fitting endcaps,
drill a hole in one end cap, glue a long fuse in that endcap. glue the endcap on the pipe,
fill pipe with explosive powder, glue other endcap on,
put on ground lite fuse and get away.
what explosive powder you may ask, how about black powder,
wow that wa like so hard to think of,
I knew how to do that when i was 3 years old,
you could also use nitrocellulose or match head powder, oh god, I have to go to the emergency room because I strained my brain WAY too much while trying to think of that, oh my god my head is going to explode, I have never tried to think this hard, ahhhhhhhhhhhhhhhhhhhhhh.

*smacks wacky99 in the head for being an idiot, and in your profile you said you were a chemist, damn I would not want you to invent my window cleaner, or a food preservative,
you would probably put benzene or hydrazine or someother extemely toxic substance in there.
and also, if you were a chemist why would you need to use household chems?
if you were a real gov. hired chemist you would have every chemical any of us ever dreamed of.
grow up.
and get the hell out of here,
seems to me that the k3wl Bombers are getting dumber,

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"
dude you brought up one of the BEST professions out there, a professional chemist! a chem teacher or a private chemist would both be kick ass jobs. you have the credentials AND the means to get ANY type of chem you would need to make just about any explosive device known to man. (save the nukes and shit like that)

-----------------
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasle does not get sucked into jet engines.

- The beatings will continue until morale improves.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Equipment and learnin'</th>
</tr>
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<tbody>
<tr>
<td><strong>Dr. Zayus</strong></td>
<td>posted November 18, 1999 06:08 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Does anyone know where to get a good chemistry set and some good books or info for a novice chemist?</td>
</tr>
<tr>
<td></td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>KABONG!</td>
</tr>
<tr>
<td></td>
<td>Doh!</td>
</tr>
<tr>
<td></td>
<td>Dr. Zayus</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Equipment and learnin'</th>
</tr>
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<tbody>
<tr>
<td><strong>megalomania</strong></td>
<td>posted November 19, 1999 04:03 AM</td>
</tr>
<tr>
<td>Administrator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>That is actually a very good question. Here I wonder why nobody can grasp my simplified chemistry explanations 😐 The best learning material are textbooks, the college ones, but these are never in bookstores unless it's a college bookstore. Any will do, they are all the same. They won't teach you anything of practical value in the real world (all of the information is geared towards theory and the examples lack details) for that I would suggest an antique chemistry text (since the new stuff back then is very old to us now). Never listen to anything of theory in the old books, they are all dated, only use them for practical info (like making chlorine gas from ordinary chems, modern texts say...get it from a gas canister silly). I must look into this in more detail (one more item added to the project list 😃)</td>
</tr>
<tr>
<td></td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: bomb</th>
</tr>
</thead>
<tbody>
<tr>
<td>wacky99</td>
<td>posted November 18, 1999 03:48 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>can someone tell me how to make a small but powerful bomb out of home materials and a good pyro book for beginners.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>mosaz</td>
<td>posted November 18, 1999 04:02 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>UUUHHHH!! someone new who wants to know how to make KeWIBoMbZ with household chemicals. I hate people who know nothing about chemistry and always ask about the easiest way to make cheap but high explosive KeWIBoMbZ ............</td>
</tr>
<tr>
<td></td>
<td>you asked four times the same shit.... this is the right place for such a f****** shit so go and poke somewhere else lil freak!!!!!!!!!!</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>mosaz</td>
<td>posted November 18, 1999 05:05 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>sorry of course I meant this ISN'T the right place for KEWIboMBZ</td>
</tr>
<tr>
<td></td>
<td>HEEHHEEH!!!!!!!!!!!!!!!!!!!!!!!!!!</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>PryoTek</td>
<td>posted November 18, 1999 05:10 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>your a fag wackey99! why do u wast our goood space with you KeWI BoMbs shit??</td>
</tr>
<tr>
<td></td>
<td>Great minds are't made at school</td>
</tr>
<tr>
<td></td>
<td>They are born!</td>
</tr>
</tbody>
</table>

UV oh, you did read the FAQ didn't you? Says nasty things will be done to the second person who asks such a question, and the first has been here already... Quote from FAQ:
http://theforum.virtualave.net/ubb/faq.html

I am stupid, what will happen to me if I post before searching?

Search Before Posting
Every post ever submitted here is kept forever. More likely than not somebody has already asked the same question you want and received many answers. You may think you are the first person to ask what is the easiest explosive to make, I may ban the second person who asks!

There you go in black and white, you have been warned.

Visit Megalomania's Explosives and Stuff at
http://surf.to/megalomania
I have just perused the website of Pyrotech Distributors, a provider of laboratory chemicals and glassware intended for pyrotechnic work. The link to this site was provided by HydraShock in the post Awesome Pyrotechnics Catalog on Oct. 24.

The site is quite nice, they have a small but excellent selection of chemicals that are reasonably priced. Some of the chemicals are excessively expensive, like $1.75 for 1 qt of distilled water, but many are decent.

What worries me is there selection of chemicals. It is known to me that the DEA maintains certain chemical companies that sell to individuals. The DEA either has them as a front, or in most cases are in cooperation with the company owners. Although the chemicals in this case are not drug related, they could be troublesome if purchased in certain combinations. It is notable that this company is trying to sell its materials for pyrotechnics, but they can still draw you in.

For example, they sell toluene (overpriced), sulfuric acid (overpriced), and nitric acid (overpriced, but there are not many alternative sellers). A few other choicy chemicals, like the high concentration hydrogen peroxide, along with citric acid...

You get the picture. They have all the chemicals necessary to make several common high explosives available in one place, from one company.

I would advise caution to those who are unlicensed (nobody here of course, but I hear they are out there) when making an order. Limit your mail order purchases, do not order everything from the same company at the same time, and if you have few suppliers space out the buys at irregular intervals, one chem at a time.

-------------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Ve He MT

They also have a VERY similar inventory as Pyrotek. In fact, they look like the same thing almost.

From the catalogue of Pyrotek, it shows that they specialise in Amateur Rocketry, but they sell the nitric acid and sulfuric acid aswell.
<table>
<thead>
<tr>
<th>Username</th>
<th>Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>October 30, 1999</td>
<td>I would like to order some crap from pyrotek and it looks alright but you never can be to sure. I have talked to people that have ordered from pyrotek and they say it is alright.</td>
</tr>
<tr>
<td>wave</td>
<td>October 30, 1999</td>
<td>I see where you are all coming from in your point of view, but to me it seems to be to good to be true. I think there something behind it, that they are not telling us</td>
</tr>
</tbody>
</table>
| megalomania  | October 30, 1999   | I have no doubt that these companies are legit, BUT they offer things to TEMPT the unwary. And since they are trying to tempt people, it stands to reason they will keep tabs on your orders, or rather the gov't agency who is forcing them to offer those things for sale is going to keep tabs on your name and other stuff you may order.  
Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania) |
| Dr. Zayus    | November 17, 1999  | You guys seem extremely paranoid. You should ask a lawyer in your spare time. You'd be suprised how much harder it is to violate your rights when you know what they are. Maybe you will be put on a watched list. Who cares? You don't have to account for the chemicals, and you aren't going to use them to hurt anyone, so what could they do about it? Your name will dissapear eventually. They need a judges permission to tap your phone, and they also need a judges permission to search your house. You should use explosives as soon as you make them anyway.  
The government, despite most anarchist theory, is not a conscious being bent on destroying free will and and creativity. It is a slush of thousands of orginizations, each filled with buereocracy, stupidity, and, in reality, composed of people. It is almost like the internet, in a way, because it is manipulated by those with the most power over and knowledge of its operation. So grow up a little, and learn how these agencies work, before you end up sounding like the the jolly roger. Stay cool.  
KABONG!  
Doh!  
Dr. Zayus |

http://theforum.virtualave.net/ubb/Forum1/HTML/000188.html (2 of 4) [1/22/2000 1:44:02 AM]
There's no such thing as paranoid when it comes to the government taking your rights and privacy away. Eternal vigilance is the price of freedom. And just as a small example of the kind of thinking going on nowadays check this [http://www.patents.ibm.com/details?&pn=US05878155](http://www.patents.ibm.com/details?&pn=US05878155). Can you say "Mark of the Beast"?

And what about judges? They're nothing more than rubber stamps for anything a federal prosecutor wants to do. Read "The Electronic Privacy Papers: Documents on the Battle for Privacy in the Age of Surveillance, by Bruce Schneier and David Banisar". It explains in great detail how the government consistently subverts the intent of the Constitution by listening in on political groups, activists, and anyone else they think is a threat. And of all the wire taps the feds asked for, NOT ONE was ever refused in the years listed in the books. And that's only the ones they bothered to legally get. LAPD routinely tapped people without a warrant so they could get dirt to use as a pretext for a legal warrant.

And lets not even mention the NSA.

"The knowledge that they fear is a weapon to be used against them."

---


That should cover some of the "benefits" the NSA enjoys.

---

Damnit, they changed the layout to their site, so to get to the file do the following, go to [http://www.cryptonym.com/](http://www.cryptonym.com/) then from the side bar on the left, click on Hot Topics, from there click on the back hole issue under August '99. Read the FAQ on the subject too.

---

I'm not saying the government isn't suppressing you, im just saying it isn't really that good at it. I don't know where you got your information about wire taps, but i can guarantee it's bullshit if it says that the feds got every wire tap they asked for. The FBI is a huge orginization, that has been around for a long, long time, and has probably had to ask for thousands and thousands of wire taps. They would probably only record the times they recieved permission to use wire taps. Why would there be any recorded information on a denied request to do a wiretap? And as for the NSA, it is even bigger than the feds. It has to sift through so much data everyday, the chances of them caring about some little BBS is slim to none. In fact, the chances that they even know that this site exists is not very good. Criminalan empires exist because the government is not as smart as you think. Criminals are not as smart as you think. Mostly, it's just blind luck.
I find it upsetting on principal that you can have yourself come to the attention of the authorities for something as simple as buying a few chemicals. Despite your good intentions, they can still harass, wiretap, raid, and generally slander a person's good name. I can move this site to China if the US doesn't like it. Our rights are being eroded at an ever increasing rate. I am truly upset that a generation and more ago there were many individuals who had functional science laboratories in their homes. Today it is virtually impossible for any "layman" to practice their own experiments and not be labeled a nut. Any chemical beyond water is labeled "evil" and just try to dare buy any for personal use. Those laws make me sick.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

I remember, in the early 80's, being able to go into K-Bee Toys and buying magnesium ribbon, iodine crystals, and glass condensers. Not anymore. Drug war saw to that. Remember when chemistry sets came in a wood box with little bottles of actual powdered chemicals, shit that would kill you if you eat it? With a bunsen burner and real glass test tubes? Thanks to stupid kids and parents who were sue-happy that's a thing of the past now too.

Chem sets now come with super diluted solutions of harmless chemicals that come in sealed plastic vials. And "experiments" are conducted by injecting drops into disposable vials and noticing a color change. OOOOOHHHHH. Real impressive stuff, huh?

VeHeMT, the NSA backdoor has already been discredited. Go here for an update http://www.counterpane.com/crypto-gram-9909.html#NSAKeyinMicrosoftCryptoAPI.

As for Dr. Zayus, "Get your stinking paws off my forum, you filthy ape!". I suggest you read the book before commenting on how the info is incorrect. It the governments own documents saying that they've never been refused. Also, when you become a world-renowned computer and crypto security expert whom's opinion is sought by every major computer company and government security agency on earth, then I'll listen to your opinions on the subject.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
Secure PR

One of the great benefits of the open source movement is the positive-feedback effect of publicity. Walk into any computer superstore these days, and you'll see an entire shelf of Linux-based products. People buy them because Linux's appeal is no longer limited to geeks; it's a useful tool for certain applications. The same feedback loop works in security: public algorithms and protocols gain credibility because people know them and use them, and then they become the current buzzword. Marketing people call this mindshare. It's not a perfect model, but hey, it's better than the alternative.

NSA Key in Microsoft Crypto API?

A few months ago, I talked about Microsoft's system for digitally signing cryptography suites that go into its operating system. The point is that only approved crypto suites can be used, which makes things like export control easier. Annoying as it is, this is the current marketplace.

Microsoft has two keys, a primary and a spare. The Crypto-Gram article talked about attacks based on the fact that a crypto suite is considered signed if it is signed by EITHER key, and that there is no mechanism for transitioning from the primary key to the backup. It's stupid cryptography, but the sort of thing you'd expect out of Microsoft.

Suddenly there's a flurry of press activity because someone notices that the second key in Microsoft's Crypto API in Windows NT Service Pack 5 is called "NSAKEY" in the code. Ah ha! The NSA can sign crypto suites. They can use this ability to drop a Trojaned crypto suite into your computers. Or so the conspiracy theory goes.

I don't buy it.

First, if the NSA wanted to compromise Microsoft's Crypto API, it would be much easier to either 1) convince MS to tell them the secret key for MS's signature key, 2) get MS to sign an NSA-compromised module, or 3) install a module other than Crypto API to break the encryption (no other modules need signatures). It's always easier to break good encryption by attacking the random number generator than it is to brute-force the key.

Second, NSA doesn't need a key to compromise security in Windows. Programs like Back Orifice can do it without any keys. Attacking the Crypto API still requires that the victim run an executable (even a Word macro) on his computer. If you can convince a victim to run an untrusted macro, there are a zillion smarter ways to compromise security.

Third, why in the world would anyone call a secret NSA key "NSAKEY"? Lots of people have access to source code within Microsoft; a conspiracy like this would only be known by a few people. Anyone with a debugger could have found this "NSAKEY." If this is a covert mechanism, it's not very covert.

I see two possibilities. One, that the backup key is just as Microsoft says, a backup key. It's called "NSAKEY" for some dumb reason, and that's that.

Two, that it is actually an NSA key. If the NSA is going to use Microsoft products for classified traffic, they're going to install their own cryptography. They're not going to want to show it to anyone, not even Microsoft. They are going to want to sign their own modules. So the backup key could also be an NSA internal key, so that they could install strong cryptography on Microsoft products for their own internal use.

But it's not an NSA key so they can secretly inflict weak cryptography on the unsuspecting masses. There are just too many smarter things they can do to the unsuspecting masses.

My original article:
http://www.counterpane.com/crypto-gram-9904.html#certificates

Announcement:
http://www.cryptonym.com/hottopics/msft-nsa.html

Nice analysis:
http://ntbugtraq.ntadvice.com/default.asp?sid=1&pid=47&aid=52

Useful news article:

Counterpane -- Featured Research

"Cryptanalysis of Microsoft's PPTP Authentication Extensions (MS-CHAPv2)"


The Point-to-Point Tunneling Protocol (PPTP) is used to secure PPP connections over TCP/IP link. In response to [SM98], Microsoft released extensions to the PPTP authentication mechanism (MS-CHAP), called MS-CHAPv2. We present an overview of the changes in the authentication and encryption-key generation portions of MS-CHAPv2, and assess the improvements and remaining weaknesses in Microsoft's PPTP implementation. While fixing some of the more egregious errors in MS-CHAPv1, the new protocol still suffers from some of the
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Ammonium, chlorates,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ve He MT</td>
<td>posted October 28, 1999 04:25 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>What details would anybody be able to provide about the thought of electrolyising Ammonium (per)chlorate. Ammonium Chloride is present in dry cell batteries, along with Manganese Dioxide and Carbon. The Carbon could be filtered out, as for the Manganese Dioxide, you could try to filter it. And if that does not work something else will need to be done. If this is a hopeless idea, is there any other sources of obtaining Ammonium Chloride? Chlorates(even perchlorates) are very dangerous. Ammonium bearing chemicals are also very dangerous. Ammonium (Per)Chlorate is extremely dangerous. It can detonate much easier then Ammonium Nitrate. Any thoughts about the production of Ammonium Perchlorate production would be quite useful, since it isn't the cheapest thing to acquire through the mail. Also I would bet they would keep tabs on who bought it just as well.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted October 28, 1999 09:25 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>we used ammonium chlorate in are chem lab not two days ago. if you had asked the question before we had done it i could have obtained a shit load of this. Ohwell, how sensitive is it to a blasting cap. would you still have to use a number 8 or 10 to detonate it?</td>
</tr>
</tbody>
</table>

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!
I have seen the equations and the explanations for the conversion of a chloride (-Cl like salt) to perchlorate. The conversion was for sodium chloride, and is quite nice. I suppose this can hold true for any chloride (I don't have that book here anymore dammit or I would check). In short, any "chloride" could be made into a "perchlorate" by zapping it.

As the perchlorates lab is the last thing to do on my website for the Great Edit (yeah!) and, hmm, ammonium perchlorate just happens to be next (I should be working on that now 😊) I will have the "chemical" means of production available by the Nov, 1 1999 update.

If you want ammonium chloride, you COULD buy yourself a $100 worth of batteries, and you COULD scrape all of the crap out of them.

OR...

You could mix grocery store ammonia with hardware store hydrochloric acid and end up with ammonium chloride in water 😊 Thats a whole hell of a lot easier in my opinion. You could even use that solution as is...

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Or you could just buy it from any chemical supplier for a few dollars a pound, no questions asked. Failing that, hardware stores and welding shops carry it also as a fluxing agent. Comes in 1/4 pound blocks for a couple bucks.

If you need to make it, put the ammonia in flask 1, the HCL in flask 2, and a small amount of water in flask 3. You heat F1, the ammonia fumes are passed into the acid through a tube at the bottom of F2, and residual fumes are absorbed in F3. When the reaction is done, take the contents of F2 and F3 and evaporate them in the sun till dry.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
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<tr>
<td>Fjp 92</td>
<td>Do you want to make Ammonia chlorates rates or perchlorates. I noticed that in one of the posts some one sayd something about working with (amonia clorate). I have found from a reliable source that amonia chlorates is higly unstable, it said something aboud dont ever mix chlorates with ammonium salts cause hihgly unstable ammonium chloride might form. But for perchlorate the recristalysation from a nother ammonium salt and a perchlorate may be used. This is how it is done industrialy i belive. Perchlorates can be made by electrolisys but PbO2 electrodes must be used. Carbon is not durable enougth to make perchlorates. sory for shit spelling</td>
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</tr>
<tr>
<td>Fjp 92</td>
<td>Do you want to make Ammonia chlorates rates or perchlorates. I noticed that in one of the posts some one sayd something about working with (amonia clorate). I have found from a reliable source that amonia chlorates is higly unstable, it said something aboud dont ever mix chlorates with ammonium salts cause hihgly unstable ammonium chloride might form. But for perchlorate the recristalysation from a nother ammonium salt and a perchlorate may be used. This is how it is done industrialy i belive. Perchlorates can be made by electrolisys but PbO2 electrodes must be used. Carbon is not durable enougth to make perchlorates. sory for shit spelling</td>
<td>Logged</td>
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<tr>
<td>slim</td>
<td>I would like to know is ammonium Perchlorate a better oxidizer to use in flash powder instead of potassium chlorate.</td>
<td>Logged</td>
</tr>
</tbody>
</table>
There are two MAIN uses for Ammonium oxidizers, High Explosives and rocket/ballistic propellant oxidizers. If you just want ammonium perchlorate as the oxidizer because you want some bad ass flash powder, forget it. It's too costly and its not the best oxidizer for the job, stick with potassium perchlorate. Thanks for the ideas on how to make ammonium chloride guys =]

You don't need to worry about heating the ammonia to bubble it into the HCl, you can just mix the chemicals directly, very slowly, its kinda like titration. Pour alot of ammonia into a "container" (whatever you desire) and slowly add the acid. Since HCl is alot more concentrated than ammonia (~ 30% vs. ~ 4%) you need alot less.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Yes, It would appear I added too much HCL, as when I tested it with litmus, it appeared bright purple/red =]  

I will try again when the rain stops so I can gain access to my garage 😊

I will try this time with small increments and testing it as I add more to avoid what happened the first time. Hehehe

The electrolysis would probably work but I think a side product of electrolysing NH4Cl is NCl3--which is dangerously unstable.
The reason for heating the ammonia is because common ammonia products contain detergents and salts that would contaminate the resulting product. And impurities are to be avoided as a general rule when making explosives. If you were just making it for smoke additive then it wouldn't be necessary.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

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Ve He MT
Frequent Poster

No I have the PURE ammonia hydroxide(solution). From the grocery store :]

---

fart
unregistered

To make ammonium chloride, buy ammonium sulfate fertilizer(it comes about 95% pure) and buy calcium chloride from tractor tire places where its used to fill tires with concentrated liquid as antifreeze. Both are cheap.

Mix them in the balanced ratio to cause ammonium chloride and calcium sulfate.

The calcium sulfate is almost zero soluble so it ought precipitate out rapidly, leaving ammonium chloride in solution.

\[2\text{Ca Cl}_2 + (\text{NH}_4)_2\text{SO}_4 = 2\text{NH}_4\text{Cl} + 2\text{Ca SO}_4\]

\[2 \times 164 + 2 \times 53 \times 2 = 132 \times 2 \times 136 \times 2 \times 1 \text{ wts}\]

328 ozs chloride of lime with 132 ozs of ammonium sulfate and get 106 ozs of ammonium chloride in solution and 272 ozs of chalk precipitated.

If you make ammonium chlorate do test the first batch for friction, and impact sensitivity for my book says its very sensitive. It also says chlorate and sulfur is very sensitive. I consider chlorate and red phosphorus very sensitive, but think sulfur and chlorate are merely to be respected, and not abused. Anyway test to be personally sure how much abuse it will not tolerate.
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Here is some more info on AMP which I find pretty impressive

SILICONE OIL/AMMONIUM PERCHLORATE PLASTIQUE
This plastique is easily made. Percursors are very simple to obtain. This mixture of ammonium perchlorate and copper chromite has all the power that R.D.X. has. I do not believe the detonation velocity will be as high however. It is cap sensitive and very powerful. The copper chromite component of this explosive composition is available as a chemical reagent and as a catalyst. Ammonium perchlorate is widely available as an oxidizer in pyrotechnics, solid rocket propellents, and JATO motor construction. This explosive plastique would be a very good choice if the percursors are available.

MANUFACTURE-
Take 1 parts by weight of silicone paste (Dow Corning Silastic 126 or equivalent) and 2 parts silicone oil (Dow Corning Product #9996 or equivalent) and place in a stainless steel pan. Add to this .015 part benzoyl peroxide. Stir in well. Heat this mixture to 135 degrees for 15 minutes and let the thick gell cool. In another container 95 parts of ammonium perchlorate are mixed carefully with 5 parts copper chromite. These are of course finely powdered before mixing. Mix these together until a
uniform mixture is obtained. Fifteen parts of this gell are added to 85 parts the explosive mixture from above. This mixture is kneaded until a very uniform consistency exists. This will yield an explosive of great power and very good plasticity. One would want to use a #8 cap for this explosive to ensure good performance.

Taken from the book
Improvised plastic explosives

Rolf
Ethyl nitrate

formula: C2H5NO3
molecular weight: 91
energy of formation: -1968 kJ/kg
oxygen balance: -61.5%
density: 1.1 g/cm
lead block test: 420 cm³/10g
detonation velocity,
confined: 5800 m/s (confined)

This explosive is a colorless mobile liquid with a pleasant smell. It is practically insoluble in water, but is soluble in alcohol and most organic solvents. Ethyl nitrate vapors readily form explosives mixtures with air even at low temperature; the lower explosive limit is 3.8% ethyl nitrate. Ethyl nitrate explodes when brought into contact with alkali metals.

I found this explosive in a book called Explosives by Josef Kohler. The good thing about this explosive is that it can be made out of nitric acid medium and ethanol and then it is almost as powerful as RDX in the lead slab test. The bad thing is that the book said nothing about the sensitivity and no matter where I have looked I haven't found a single information about it so maybe you can help me with that.

rolf nixon
Frequent Poster
posted November 19, 1999 11:19 AM
So you think you need a booster to set off your ANFO? Well, not any more.

PRILLED AN-FUEL OIL (Cap sensitive)

DETONATION VELOCITY
Confined = 4600 M/sec.
Unconfined = 3200-4600 M/sec.

DETONATION PRESSURE - 490,000-1,000,000 P.S.I.

SENSITIVITY - One #8 blasting cap will initiate detonation in charges larger than 2.25 inches, but similar untreated prills will not detonate.

USE-

BLASTING - Useful in blasting due to the fact that it is easy and very inexpensive to prepare. This prilled form of the usual ANFO explosives is attractive to the blaster because in nearly all applications this type of prilled ANFO explosive will have a higher detonation rate and therefore an increased performance over its counterpart.

DEMOLITION - See PRILLED AN-FUEL OIL

MUNITIONS - See PRILLED AN-FUEL OIL

This is a very interesting development of the ANFO explosives. While being very simple it effectively sensitizes the fertilizer grade of AN when mixed with diesel, so that one blasting cap will detonate the resulting mix. It makes use of the tendency of even small amounts of water to effect the crystalline structure of the prills in such a way that effective density is lowered. This, in conjunction with available fuel, yields an explosive that is cap sensitive. This is one of the most simple cap sensitive explosive compositions in this book.

This procedure really should be performed of all prilled AN explosives. This lowers the actual density of the prills. Giving an optimum density for the proper absorption of most ANFO. Compositions with 94.4% AN and 5.6% fuel oil are considered optimum. These will also be cap sensitive. The fuels in the compositions below are considered slightly higher than the ANFO explosive due to sensitivity and performance respectively. Take 40 G. of ammonium...
nitrate prills (fertilizer grade) and to them add 10 G. (10 cc) water. This mixture is heated to 90 degrees C. (195 degrees F.). All of the prills should dissolve. If not stir the liquid until they do. This liquid (saturated AN-water solution) is then added to a mixture of 14 G. #2 diesel and 186 G. ammonium nitrate prills (fert. grade). This mixture is stirred and poured into a suitable container (stainless steel pan) and placed in an oven with the thermostat set at 150 degrees F. for 2.5 hours with constant supervision. Ammonium nitrate when mixed with fuels are dangerous when heated. Better and safer than this is to place these wetted prills in a desiccator (laboratory drier) or in a container with a vacuum drawn on it and it's contents so as to remove the water. This vacuum method of water removal is best and will yield the highest performance mixtures. In boiling water off the AN prills under reduced pressure porous prills are produced by the water vapor escape from inside the prills.

These prills will produce cap sensitive mixtures easily with almost any liquid hydrocarbon. Fuel oil, naptha, gasoline, carbondisulfide and almost anything liquid that will combust will work.

AMMONIUM NITRATE (Fert. prills)..........40 G. or 14.6%
WATER...........................................10.cc or 4.0%

AMMONIUM NITRATE (Fert. prills)..........186G. or 74.4%

GASOLINE.......................................5 G. or 2.5%
WAX (PARAFFIN)................................9 G. or 3.1%
or
DIESEL...........................................7 G.

ALUMINUM POWDER (400 Mesh)...............14 G.

This procedure should work on other liquid fuels except the very volatile ones such as gasoline and the alcohols giving easily prepared cap sensitive explosive compositions. Also the substitution of 14 G. of powdered aluminum for 7 G. of the diesel will give a slightly higher performance explosive.

-----------------------------------------------------------

Taken from the book
Improvised fertilizer explosives

Rolf
will this work?? has anyone tried it?? how does it become more cap sensetive? Wouldn't the fuel ignite when heated in the oven? this seems weird.

IP: Logged

darcey
Frequent Poster

posted November 19, 1999 07:05 AM

will this work?? has anyone tried it?? how does it become more cap sensetive? Wouldn't the fuel ignite when heated in the oven? this seems weird. You tried it rulph?

IP: Logged

darcey
Frequent Poster

posted November 19, 1999 07:07 AM

sorry Rolf, i ment to spell you name the right way.

IP: Logged

rolf nixon
Frequent Poster

posted November 19, 1999 08:45 AM

Yes of course it works otherwise I would`nt mail it. About the heating in the oven the answer is no, fuel oil has a very high boiling point and will not ignite at these temeratures. But if you dont wan`t to use unhealthy chemicals in your kitchen you can use glycerin as it`s boiling point is about 200 degrees celcius. Also glycerin is a much better choice since alcohols is one of the best fuels for ammonium nitrate.

Rolf

IP: Logged

nbk2000
Frequent Poster

posted November 19, 1999 10:30 AM

Or you can save yourself the time and effort by buying a jar of microballons at the hobbyshop for a few dollars. Microballons are used to bulk up epoxy to make it much lighter for model airplanes. It microscopic glass ballons filled with air. A pint size jar feels like it's empty because it's so light. Mix this in with the ANFO at between 5 - 10% volume and you'll have the same effect as the complex process above.

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"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged

Al Koholic
unregistered

posted November 19, 1999 03:42 PM

Amen!
My understanding is that the detonation of ANFG is first a surface reaction, for the most sensitive mixes before this "foaming" technique was with 1% fuel that stuck to the surface only. Sulfur is a very sensitive fuel with ANFG, due to its low ignition point. Phosphorus was even better. Some have used the oils in coffee grounds because they apparently take fire very easily.

The reason the final explosive must have lots of air spaces in it is once the surface reaction (blast) creates a high pressure, the air bubbles reach incandescent temp and ignite all AN surrounding them. Since they are everywhere in this foamed AN, the blast progresses as a detonation wave at the speed of sound in that temperature and that density medium, which is pretty fast. In the old solid prills, this internal reaction didn't occur, and you had to have a booster that could hold the pressure on it long enough for the slower burning to occur. Same effect in black powder. A packed lump will burn slowly. FFFg will flash off in a puff due to the fire permeating the hollow spaces and lighting it all at once. There was a bubble bath additive that also can alter the solidity of prills to make AN go faster.

Know of any easily obtained sources of aluminum powder?

Zinc powder might do as well, and its readily available as paint additive for zinc rich paints to stop metal roof corrosion. Have not tried Zinc in explosives myself, but Aluminum is not easy to get, has been my experience so far.
<table>
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<th>Topic: to wacky99, or Dr.Zayus, whoever you are</th>
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<tbody>
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<td>dlwdaw</td>
<td>posted November 18, 1999 09:24 PM</td>
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<td>Frequent Poster</td>
<td>go here for the easiest explosive,</td>
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<tr>
<td></td>
<td>read my reply Hydrochloric acid oh sh7t</td>
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<td>cool huh</td>
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<td></td>
<td>-dlwdaw</td>
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<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
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<td></td>
<td>-- Ragnar Benson</td>
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<td>ho ju</td>
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<td>Frequent Poster</td>
<td>when i refer to my stupid ass posts i am thinking of things like that. I would like to formaly apologize to Bond007 for being an asshole. i guess i was just in a bad mood that day. Sorry dude. i have a low tolerance for petty shit. 😊</td>
</tr>
<tr>
<td></td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!</td>
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<td>-The eagle may soar but the weasle does not get sucked into jet engines.</td>
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<td></td>
<td>-The beatings will continue until morale improves.</td>
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I do believe they are two different people. There IP addresses are different, but that can be faked with effort. The writing style is different though, Dr. Zayes can write and wacky99 can type on a keyboard 🙄 How does that saying go? A hundred monkeys typing on a hundred typewriters will, given infinite time, write the greatest literary work ever known.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

who are these people?? There use to be a few like this at my old school, you know the kind that want to mix washing powder with water to make a huge powerful bomb that is safe a shit. One guy recognd that he let of an ANFO bomb with a soda bulb bomb (the sparkler + Co2 bulb type) and get this, when i asked how he made it he said he got some Osmacoat (slow release fertilizer with no explosive use) put it in a cardboard box, poured about 3 litres of two stroke on the Osmacoat, put a soda bulb bomb in it and it went off with a huge bang. It even bent trees!! yea bullshit, if your out there James Faulkner you are a fuck stick.

To these newbees....take some time to read this forum and learn about explosives. You like to make bombs, great so do we but if you keep going the way your going you will end up in a body bag. Read up before you start to produce things.

No, no, no, no,.... we make "explosives" 😁

"Energetic materials" would even be better.
yeah and as stated before by Mega, we are all fully liscesed pyrotechnicians. (at least i am 😊)

-------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

---

ok, we like to make enagetic materials and are all strictly aboveboard but who are these new people?

---
### Author
**austrapyro**
A New Voice

### Topic: acetaldehyde

**posted November 20, 1999 08:38 AM**

How make acetaldehyde?

bye!

a+

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**IP: Logged**

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Administrative Options: Close Topic | Archive/Move | Delete Topic

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<th>Topic: Sugar &amp; Sodium nitrate fuses</th>
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<tr>
<td><strong>Igenx</strong></td>
<td>posted November 19, 1999 11:37 PM</td>
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<td>Frequent Poster</td>
<td>Can cotton strings be effectively be made into fuses by making a supersaturated solution of equal parts sugar and sodium nitrate and allowing them to crystalise?</td>
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<tr>
<td>Blaze</td>
<td>posted November 20, 1999 07:41 AM</td>
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<tr>
<td>Frequent Poster</td>
<td>out in the open it would probably work well ..(KNO3 + string does) but getting it burn through confinement is another matter….</td>
</tr>
<tr>
<td><strong>Igenx</strong></td>
<td>posted November 20, 1999 10:27 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I know that this mix will burn thru confinement. I tried something similar to make fuse and it burned under a pile of sand. Why I asked is if this method for preparing it will work. I know that rubbing the two into the string will make an effective fuse.</td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Condenser Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paul</strong></td>
<td>posted November 17, 1999 10:33 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>What condenser would work the best or be the most efficient for distilling HNO3? I believe Graham condensers have the most surface area, so would those work the best?</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td>posted November 19, 1999 03:43 AM</td>
</tr>
<tr>
<td>Administrator</td>
<td>Grahams have the most surface area for their length, yes, but you do not need a highly efficient condenser for distilling nitric acid. A Liebig will do fine and will be cheaper.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>xHelios</strong></td>
<td>posted November 20, 1999 02:29 PM</td>
</tr>
<tr>
<td>unregistered</td>
<td>Is it actually necesary for i.e. TNT or RDX to work with 99% HNO3 and H2SO4 or can it also be done with 80%? as far as i've tried it, it works fine for guncotton but nothing else.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>Enigma</strong></td>
<td>posted November 20, 1999 05:31 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>A) I like my graham condenser, for about $15 more you get a condenser that I feel has more uses.</td>
</tr>
<tr>
<td></td>
<td>B) With 70% HNO3 and 93% H2SO4, use 3:1 (H2SO4:HNO3) acid mix, with 99% + use a 3:0.75 nitrating mix.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: to mega</th>
</tr>
</thead>
<tbody>
<tr>
<td>wave</td>
<td>posted November 12, 1999 06:11 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>well on your web site you have a guide on how to make hmtd. well supose i have made it before with 3% peroxide and i folowed your instructions correctly how much hmtd am i suppose to have when it is all done also would i get more if i have used 30% and if anyone knows how hmtd would be good to egnite anfo or should i used AP</td>
</tr>
</tbody>
</table>

| Ho ju        | posted November 12, 1999 07:03 PM                  |
| Frequent Poster| could someone post the procedure on how to make HMTD or do you want me to look on megas website? ----------- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!! -The eagle may soar but the weasle does not get sucked into jet engines. -The beatings will continue until morale improves. |

| Ve He MT     | posted November 12, 1999 08:59 PM                  |
| Frequent Poster| Damn. It's been brought up a lot in this forum. And direct links to the synthesis of both AP and HMTD on mega's webpage have been provided numerous times. I dont think a post is necessary to ask someone to go to mega's site and post the information for you here. But thats just my opinion. [http://surf.to/megalomania](http://surf.to/megalomania) |
Ho ju
Frequent Poster

posted November 12, 1999 11:41 PM

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasle does not get sucked into jet engines.

- The beatings will continue until morale improves.

IP: Logged

Ve He MT
Frequent Poster

posted November 13, 1999 11:19 AM

np

hehehe

IP: Logged

megalomania
Administrator

posted November 14, 1999 11:31 PM

Well I sure would like it if somebody showed up 😊

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

IP: Logged

wave
Frequent Poster

posted November 21, 1999 12:47 PM

so mega can you tell me how i am suppose to have if i followed the instrutiion right with 3% proxide

IP: Logged

Contact Us | The Forum

Powered by: Ultimate Bulletin Board, Version 5.38
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: atomized particel explosins</th>
</tr>
</thead>
<tbody>
<tr>
<td>rolf nixon</td>
<td>posted November 16, 1999 08:13 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>
|               | I guess that the most of you know about phenomenon called "atomized particel explosins" Where you atomize a flambel substance such as gasoline with a high explosive material and create a fuel explosion, But what I was wondering of was if Any of you had an idea to do this without an explosives.  
|               | Rolf                                      |
| Al Koholic    | posted November 16, 1999 03:20 PM       |
| unregistered  |                                      |
|               | You could do it with compressed air. That would be your next best bet. Explosives are far superior but compressed air will do a very nice job.                                      |
| megalomania   | posted November 16, 1999 07:25 PM       |
| Administrator |                                      |
|               | Trying using pressurized propane through the liquid and out an atomizer tip (like a perfume bottle atomizer). The propane is superior to air because it is flammable as well.  
|               | -------------------------------------- |
|               | Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania |

IP: Logged
I don't think propane would create the necessary high speed dispersion you would need to make a good explosion. True, if you did make the fuel go through an atomizer tip or something that would make a nice fuel air mixture but not large scale or rapid. Plus its cheaper to use compressed air assuming you have access to a compressor. Just hook a pneumatic cannon up to a reservoir of fuel so that when the cannon is discharged all the fuel will be fired into the atmosphere at a high speed upon which once it exited the barrel of the reservoir, it would disperse instantly into tiny droplets in a rather large cloud and then this could be ignited creating a beautiful fireball! AK

You are right, it would be quite slow. I was going to mention that but didn't.

-----------------

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

As far as I heard this works with almost anything flammable. The most famous one is flour. When there is a certain amount of it in the air, a spark will ignite it, just like any flammable gas. This happened in a few mills, that is why this is such a famous example.
Does anybody know where I can find more information about ammonium nitrate with nitrated hydrocarbons?

Rolf
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: What can I combine to get chlorine gas?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apathetic</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /> posted November 05, 1999 03:01 PM</td>
</tr>
<tr>
<td>Dr-D</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /> posted November 05, 1999 04:44 PM</td>
</tr>
<tr>
<td>rolf nixon</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /> posted November 17, 1999 02:06 PM</td>
</tr>
</tbody>
</table>

**Apathetic**
Frequent Poster

I want to try to make potassium chlorate from lye. To do that that I need to bubble chlorine through lye. I read that I should use sani-flush and bleach, but I can’t find sani flush. In the same book it also says I can use hydrochloric acid and bleach. I tried this and it worked a little but it wasn’t strong enough to bubble through the lye.
Thanks

**Dr-D**
Frequent Poster

Postassium chlorate can be made by electrolosys of potassium chloride (muriate of potash or substitute table salt), or by boiling potassium chloride through chlorox bleach.

The lye method you are using does not produce a lot or so I have heard. To get chlorine gas I know that a common way is to mix ammonia + bleach. You learn that at a very young age or so I did.

**rolf nixon**
Frequent Poster

Potassium chlorate is an easy thing to make said with a few words all you have to do is to mix some natrium hypochlorite and potassium chloride in water and then filter of the precipitated chlorate crystals.

Potassium chloride can be made by mixing paper ash with hydrochloric acid followed filtrating and evaporating of the water which leave you back with very pure potassium chloride.

Details on chlorate manufacture can be found in articles such as plastic explosive form bleach and table salt.

Rolf
<table>
<thead>
<tr>
<th>Username</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr-D</td>
<td>Natrium hypochlorite? what/where do you get that?</td>
</tr>
<tr>
<td></td>
<td>as for stuff like calcium hypochlorite, I didn't find any, i found this alternative crap that was like 20 bucks for this small ass container :\</td>
</tr>
<tr>
<td>nbk2000</td>
<td>Rolf is putting on airs with the fancy word (natrium) for sodium. Sodium hypochlorite AKA common household bleach.</td>
</tr>
<tr>
<td>Dr.Zayus</td>
<td>I don't know about potassium chlorate, but you can get straight chlorine by passing an electrical current through molten salt. I'm not sure on the details though, it was only mentioned in passing in a textbook.</td>
</tr>
<tr>
<td>Kalium</td>
<td>Rolf Nixon Where do you hear from Natrium. Biste vielleicht deutsch?</td>
</tr>
<tr>
<td>megalomania</td>
<td>You would need to have quite the expensive setup in order to get lots'o chlorine from salt electrolysis. It can be done on a small scale, but don't look for the chlorine.</td>
</tr>
</tbody>
</table>

Visit Megalomania's Explosives and Stuff at [http://surf.to/megalomania](http://surf.to/megalomania)
Another good thing about passing a current through salt is that once the chlorine is gone you will be left with sodium, which ignites on contact with water.

Hey KALIUM why can you speak german or better why can you write it?????

Why not. I am an german. And you. Why can you german.

I'm a german!!.... 😊


Wie wärs du mailst mir einfach, weil sonst fangen die aneren an zu motzen weil sie kein Wort verstehen!!! Meine adresse is... (weiss grad nich müsst aber irgenwo stehen wenn du bei meinem post auf so'n komisches zeichen klickst

This is an english language forum. If you guys want to talk german, do it by e-mail, not in the forum. Everyone here needs to speak the same language to share knowledge, we don't need another tower of babel on the web.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
mosaz
Frequent Poster

posted November 22, 1999 12:01 PM

I know that myself and I told him that he should e-mail me (because I can't mail him...he isn't registered)...And in another post you have spoken french and I didn't howl because I do not understand french....... so I think we should just forget this....

nbk2000
Frequent Poster

posted November 22, 1999 03:03 PM

Before you accuse someone of hypocrisy, be sure to get your fucking facts straight. The post you are referring to is http://theforum.virtualave.net/ubb/Forum1/HTML/000119.html. You will notice that I never said I word in french, merely translated what had been said. And I had to use a translation engine too.

Now that we got that out of the way, glad you straightened him out.

------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
### Topic: Alum

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Message</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlwdaw</td>
<td>September 29, 1999</td>
<td>can this be used to make explosives? it is like aluminum magnesium sulfate or something like that. thanks</td>
<td>Logged</td>
</tr>
<tr>
<td></td>
<td>11:48 AM</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dont quote me, dont try this, and correct me if I'm wrong.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>nbk2000</td>
<td>October 01, 1999</td>
<td>I don't know of any explosives that use alum, but you can make pyrophoric (look it up) compounds with it. Try this: Stir equal parts of alum and brown sugar (or 3 parts alum and 1 part wheat flour) in an iron ladle over the fire until dry: them put it into a glass vial, and keep it at a red heat as long as flames are emitted. It is then seal airtight and cooled. Place the vial somewhere where it would be crushed in contact with flammable materials and you got yourself a neat little arson device.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>04:31 AM</td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot;</td>
<td>Logged</td>
</tr>
<tr>
<td>Dr-D</td>
<td>November 17, 1999</td>
<td>Interesting... What exactly is made after that? and can epsum salt be used? (mg sulfate)</td>
<td>Logged</td>
</tr>
<tr>
<td></td>
<td>07:13 PM</td>
<td>if not where do you get alum?</td>
<td></td>
</tr>
<tr>
<td>Username</td>
<td>Date</td>
<td>Time</td>
<td>Comment</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
<td>----------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Al Koholic</td>
<td>November 18, 1999</td>
<td>12:34 PM</td>
<td>Alum is in the supermarket. Very accessible. I don't know if epsom salts would work, I tend to doubt it. AK</td>
</tr>
</tbody>
</table>
| Ho ju         | November 18, 1999 | 04:42 PM | Alum and lime are used for purifying (SP) water I think. What section would alum be in in a supermarket.  

------------
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
- The eagle may soar but the weasel does not get sucked into jet engines.
- The beatings will continue until morale improves. |
| nb2000        | November 18, 1999 | 07:48 PM | Alum can be found in the spice section. Also used for pickling food, and can sometimes be found in the pharmacy with the ipecac syrup and mercurchrome.  

I think (IMO) that the aluminum in the alum is activated by being precipitated in a superfine state in a carbon media. When exposed to air and moisture, the heat of the oxidation is sufficient to ignite it.  

That reminds me, I forgot to mention that the article mentioned it works best in humid and warm environments.  

"The knowledge that they fear is a weapon to be used against them."  
www.50megs.com/nb2000 |
| Feticidal Fantasy | November 21, 1999 | 01:14 AM | If you mix alum with water (and some other shit) you can walk on hot coles without burning your feet. This is what Houdini used in his tricks, I have his book and it has a recipie for the stuff to soak your feet in for fire walking, anyone want it?  

----------  
Feticidal Fantasy-  
http://www.darksites.com/souls/vampires/feticidal/  
"Keep your gun as your constant companion." |

IP: Logged
**dlw daw**  
Frequent Poster  

posted November 21, 1999 01:23 AM

HELL YEAH!!!!!!!!!!

---------------------
-dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

---

**Ho ju**  
Frequent Poster  

posted November 21, 1999 12:41 PM

yeah that would be cool. send me a copy too

---------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasel does not get sucked into jet engines.

- The beatings will continue until morale improves.

---

**poison**  
Frequent Poster  

posted November 22, 1999 10:02 PM

Might as well post it or ya can send it to me to. 😊

-Poison

---

**Feticidal Fantasy**  
Frequent Poster  

posted November 22, 1999 11:53 PM

Alright, I don't know if this is bullshit or not but here it is:
"Dissolve as much alum as possible in a pint of water and add to it as much pink sulphate as will cover an English shilling. Soak the feet several times in this solution and allow them to dry. This toughens and prepares the skin for the demonstration."

---------------------
-Feticidal Fantasy-  
http://www.darksites.com/souls/vampires/feticidal/  
"Keep your gun as your constant companion."

---

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: C-1 to puncture propane tanks</th>
</tr>
</thead>
</table>
| *Igenx* Frequent Poster | THEORETICALLY!!!  
Can a 2 in cube of composition C-1 in a safe cracker charge (45 degree cone bonded to the surface using magnets or contact cement) effectively be used to puncture a large tank of liquid propane, the kind that is about 20 feet long? Would a larger charge be necessary to puncture the steel on one of these tanks? I haven't found much info on this, only a similar, albeit larger, shaped charge made from C-4 with a copper sheet was able to blow a hole thru a 2 in piece of stainless steel. Would a secondary charge be necessary to actually detonate the atomized propane, and if so how long should the interval between the explosions be? |
| Ho ju Frequent Poster | on the same subject, would a pipe bomb made out of AP (say the pipe was 6 inch long and 1 1/2 inches wide) be enough to a) break open a big propane tank and b) be enough to break it open AND ignite the particles?  
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!  
- The eagle may soar but the weasel does not get sucked into jet engines.  
- The beatings will continue until morale improves. |
| darcey Frequent Poster | it would all depend on how big the propane tank was. I tried using a HMTD charge to rupture a LPG tank and it didn't work. I in the end used a chlorate/al powder explosive charge with a Bulleys filled cardboard tube detonated with a HMTD cap stuffed in it. This worked very well, rupturing the tank and also igniting it. |
I asked this question before on the bravenet forum. The answer I got was... Use a linear shaped charge the length of the tank filled with RDX, and pour gasoline on the outside of the tank to ignite the flames. They said if you use a cone shaped charge since the hole is tiny, the gas rushing out will get chilled and will not be easily ignited. So a linear charge would split the tank in half.

------------------
Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."

*Igenx*
Frequent Poster

Cool. Thanks. Any idea what diameter the linear charge would have to be? The time constrain is the problem with covering the tank in gas. It would evaporate before it would be detonated. A dual stage timer seems to be the only way to successfully detonate a propane tank.

IP: Logged

Darcey
Frequent Poster

what is a linear charge? just a pipe filled with explosive? sorry if this question sounds silly but i have heard the term quite alot but never know what it was.

IP: Logged

I saw a show on TV where they were blasting steel beams and their linear charges were about 4" wide and 3" high. A linear shaped charge is a pipe that is shaped like a U. I think I may have a file about this on my website.

------------------
Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."

IP: Logged
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: shaped charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blaze</td>
<td>posted November 21, 1999 06:09 PM</td>
</tr>
<tr>
<td>Blaze</td>
<td>attempting to cut a padlock in half, i used a tictac box of PETN with a copper cone, on detonation a perfect line was cut down the lock as if it had been hit with a plasma cutter, however it only cut around 1/3 through.. would using a thick casing for the charge greatly help it penetrate furthur....</td>
</tr>
<tr>
<td>Ho ju</td>
<td>posted November 21, 1999 07:34 PM</td>
</tr>
</tbody>
</table>
| Ho ju        | i just saw a show that talked ablout shaped charges and they are damn impressive. the proffesionals use shape charges to cut through inches of steel. (they did not go into the tech. stuff though. just told the watchers what it did.) they did not tell how they made the shaped charges only the idea behind them. the charges they used to implode a bridge generated 3,000,000 pounds of pressure per square inch all directed onto a small point on the i-beam. it was cool.

Can you use AP to make shaped charges?

------------------------
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasle does not get sucked into jet engines.

- The beatings will continue until morale improves.
you can increase the "cutting power" of your charge by placing what is called a wave generator. It is simply a small disk of metal or wood buried in the explosive BELOW the cap. It should be about an inch below. What it does is initiates the explosion wave out and around the disc, focusing it at the cone.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Semtex</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>posted November 17, 1999 06:31 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>anyone know how to make this type of explosive? I once saw a demo charge of semtex go off and was greatly impressed. Anyone used this before?</td>
</tr>
<tr>
<td>Dr. Zayus</td>
<td>posted November 18, 1999 05:21 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Isn't that the stuff they used in lethal weapon?</td>
</tr>
<tr>
<td>Blaze</td>
<td>posted November 18, 1999 07:04 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I seem to think its a composition of RDX/PETN dont know why ... maybe i heard that somewhere.</td>
</tr>
<tr>
<td>rolf nixon</td>
<td>posted November 18, 1999 10:29 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>semtex is a trade name for a plastic explosive consisting of PETN and styrene-butadiene copolymer as a plasticiser. detonation rate is 5000 m/s</td>
</tr>
<tr>
<td>mosaz</td>
<td>posted November 18, 1999 12:50 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I saw an article in a german newspaper and they said that SEMTEX is just da same like C4 only with other plasticers (rdx+any special oil and natural plasticer)</td>
</tr>
</tbody>
</table>
Ironman
A New Voice

SEMTEX is not as good as C-4 because it leaves a wicked oily residue, so what I am saying is it leaks its plasticizer. C-4 is much better in that respect.

Ho ju
Frequent Poster

Which is more stable does anyone know? I know C-4 is damn stable. You can light it on fire and no adverse effects with result. can you do the same with SEMTEX?

-------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.

dlwdaw
Frequent Poster

seems to me some people are confused here. let me explain.

Semtex, is a crude plastic explosive with about the same powder as C-4, it was used by the irish alot because it is cheap. it is made with a 50/50 mix of RDX and PETN, then held together with a plasticiser(usually vaseline).

both explosives are very cheap to make, if you can distill nitric acid, and find pentaerythritol, you could have semtex.

Hexamine is barely a problem even if you had to order from a supplier.

I hear pentaerythritol is very cheap, just a bastard to find. and high explosives burn they dont deflagerate, or explode when exposed to flame, primarys do detonate when exposed to flame, RDX, has been known to save soliders lives, because they use it to cook there food or start a wet fire, it burns with a hot flame, and I am sure that semtex does the same, PETN is a little bit less powerful and a little more sensitive than RDX.

and since semtex has PETN, it is just about the same as C-4, but a little more sensitive, and the least bit less powerful. I hope I cleared things up

-------------

-dlwdaw

"... always look on the positive side of things, blow things up not down"
My chemistry dictionary says that urea peroxide, that is CO(NH2)2.H2O2, can be used to extract "anhydrous hydrogen peroxide" , but the dictionary is kinda small and suck, does anyone have a larger dictionary that says more about it? Apprpreciate your help.

I am more into liquid explosives right now.

IP: Logged

All times are ET (US)
### Topic: extraction of AN

#### Ironman
**A New Voice**

**posted November 23, 1999 09:33 AM**

Can't one take AN fertilizer (34-0-0) and dissolve it in a solvent and recrystallize it?

#### Blaze
**Frequent Poster**

**posted November 24, 1999 05:31 AM**

why?
should be near pure AN anyway..
If it fails to detonate you'd be better off using cold water to separate it..

---

All times are ET (US)
Author: Agent Blak
**A New Voice**

Do any of you know the # code for KNO3 Fertilizer. Example; NH4NO3(AN Fertilizer) is 34-0-0

Thanx for you asistance

---

Author: Blaze
**Frequent Poster**

**posted November 23, 1999 10:49 PM**

Do any of you know the # code for KNO3 Fertilizer. Example; NH4NO3(AN Fertilizer) is 34-0-0

Thanx for you asistance

---

Author: Agent Blak
**A New Voice**

**posted November 23, 1999 11:02 PM**

13-0-38

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Author: Agent Blak
**A New Voice**

**posted November 24, 1999 10:34 PM**

Thanx Mate

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: copper tetra ammine nitrate</th>
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<tr>
<td>Fjp92</td>
<td>posted November 12, 1999 04:28 PM</td>
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I need some info on the following explosive. Copper-tetra-ammine nitrate

I found a book in a library at the technicon where I studied. Its quite an old book (elements of explosive production) In there it said something about not using AN with copper and a few other metals cause some dangerous complexes can form, one of them is the above mentionit. It is said to be as about as sensitive and powefull as lead azide.

I tried to make some using sort of the same procedure for TACC (tetra-amminecopperIIchlorate) just by using nitrates insted of chlorates.

I simply disolved Cu(NO3)2 in methanol and bubbled a hell of a lot of amonia through it and methanol was evaporated after bubbling the gas through.

The product when ignited burned with a green flame just like TACC is suposed to burn( some of it went pop but it was still a bit wet) also the batch i made was impure( didnt bother washing) I guess it shoul also be confined to detonate.

Can i maybe use this as a sensitizer for AN? The sensitiwity compare with lead azide. So how sensitive is lead azide. (comparing with AP)? Is this stuff toxic?
This substance is very interesting, because it is very easy to make. You don't have to bubble ammonia through Cu(NO3)2, you can use an ammonia solution. Cu++ will then form Cu(OH)2, which you will see as a insoluble powder, but it dissolves in ammonia (so you add a lot, use high concentration). Then you get a dark blue solution, which gives tacen on evaporation.

It is not SO sensitive as Lead azide.
I found it to be insesitive to flame. I think it is quite easy to detonate with mechanical shock, however.

Please tell me what you have found.

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Those people who tell you not to take chances they are all missing all what life's about...

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Fjp92
Frequent Poster

posted November 13, 1999 08:13 AM

You are right about not being very sensitive to flame. i was thinking there was alot of impurities in the first one's that i made. Bud the second batch was also quite insensite.
I took a small amount and hitted it with an hammer real hard. Nothing happened.
Now im going to try and detonate with AP.
Do you think its save to make large amounts?
(up to 100 grams)

---

nbk2000
Frequent Poster

posted November 13, 1999 08:27 AM

You could also try making copper acetylide. Bubble acetylene gas through a copper solution and the explosive salt (I believe) precipitates. But it is VERY sensitive to shock and may even detonate when it dries.

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"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
Here's a link to my site's copy of "Kitchen Improvised Detonators" that will take you directly to the TACC section. It's called TetraAmine Copper Chlorate by the way. http://www.50megs.com/nbk2000/weaponsandtactics/kid.html#TACC.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

TACC, the chlorate salt, is totally unsafe. Only a madman would mix any ammonium salt, let alone ammonia, with chlorate.

TACN, on the other hand, is quite safe, exactly due to not being flame sensitive.

I don't think it is dangerous to produce a batch of 100 gr, especially if you keep it as a loose powder. There is no way it will detonate in this form. But if you press the powder or consolidate it in any other way (using a binder or plasticizer) you should be able to detonate it easily.

I'm gonna try to set it off using hmttd this week. If anyone has some results before that, please let us know.

Those people who tell you not to take chances they are all missing all what life's about...

TACC is as safe, if not safer than, AP. Diazomethane or nitrogen chloride is stupidity. And why fuck with TACC or TACN when AP is so easily made and well known? I've tried other primary explosives out of curiosity but AP is my main staple now. Cheap and simple.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
i keep hearing people say AP is safe and others say it is unsafe. Some say they use it cause it makes a better blasting cap others say that only mad men use peroxides.

Let me set up a situation for everyone. Say you made a pipe bomb with AP (i know pure suicide but hear me out) how far would you have to drop it onto concrete to make the pipe bomb go "fucking kaboom"? like how many feet in the air?

also the same deal with match box full of AP or a bullet case?

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-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.
Author: darc ey  
Frequent Poster

Topic: Chemical Firebottles

posted November 07, 1999 07:13 PM

can anyone tell me that the chemical is that ignite when it comes in contact with Sulphuric acid?? on the week end some frinds of mine came around and brought these bottles full of petrol with brown paper wraped around them. I thought "what the fuck, how do you light them??" they said, just throw it. So i did. When it hit the ground the bottle smashed and there was a bright flash followed by the petrol bursting into flames. They said that they got the idea from the terriost handbook. i haven't got this anymore seeing though i nearly lost a leg making a claymore mine from it. They couldn't rember what the chemical was called, Potassium something clorate???? i'm not sure. But they are fucking cool fun and you don't have to light them ( a person i knew (a dickhead) get really bad burns when he lit a petrol bomb, only because he didn't make it in the correct way and used a mix of shellite and Av gas or plane fuel. very dangerous!!!)

Author: Ve He MT  
Frequent Poster

posted November 07, 1999 07:38 PM

Potassium chlorate indeed. Although any Chlorate will do but potassium is favored since it is more available. What they did would have been soaked the paper in a solution of water and potassium chlorate and let it dry. Then they wrapped it up with the paper and the acid would have been inside the bottle.
I've also seen it where you take a champagne type bottle that has an indented bottom and put the chlorate/sugar mix (must have sugar added to work) in the dent, and cover it with a cardboard disk to keep it in. A cup of concentrated sulphuric acid in a quart bottle is more than adequate. This has the advantage that the bottle isn't covered in highly sensitive and flammable paper.

Use 3 parts chlorate to 1 part sugar (volume) for your igniter mix. It won't work without the sugar.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

rolf nixon
Frequent Poster

I promise you it will work without the sugar and you will get a much more powerful reaction. Some time ago I made a bomb with same pricipe as yours just without the sugar and I almost blew my self up because some of the sulferic acid hited the chlorate by an accedent.

Rolf

IP: Logged

TERROR
A New Voice

it is surely a mixture of sugar and potassium chlorate which causes fire on contect with H2SO4.

IP: Logged

nbk2000
Frequent Poster

As any pyro should know, you need heat, fuel, and oxygen for a fire to burn. The chlorate/acid reaction provides heat, the sugar provides fuel, and the chlorate and air provide oxygen. You may be successful without the sugar, but your sure to succedd with it.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged
Author: TERROR  

**A New Voice**  

**realgar**  

*posted November 25, 1999 05:16 AM*  

does anybody know about realgar. it is a red coloured stone used after mixing with kclo3 it is very shock sensitive.can it be used a detonator for high explosives.i have made so many throwing bombs with it.but i dont know how to make it.i have to buy it so i want to know how to make it

Author: nbk2000  

**Frequent Poster**  

**realgar**  

*posted November 25, 1999 05:54 AM*  

Realgar is an old name for either a salt of mercury or arsenic. I think mercury.

"The knowledge that they fear is a weapon to be used against them."  


Author: rolf nixon  

**Frequent Poster**  

**realgar**  

*posted November 25, 1999 07:29 AM*  

yeb thats right I think it is mercury sulfat long time ago it was used as colouring agent for hats untill somebody realized that it was poisonous. I sugest that you stop playing with that stuf because it realy fuckes up your brain.

Rolf
rjche
A New Voice

source for bulk chemicals in USA 1999

Potassium chloride as muriate of potash $5 per 50# farm coop store.

Calcium nitrate about 6$ a 50# bag, same places
sodium nitrate as nitrate of soda about $5 a 50# bag same places.
Calcium chloride about 10$ a 100 # bag at tractor tire filling places.

85% phosphoric acid at small chem supply stores used diluted to
30% to change rust to iron phosphate which won't rust any further.

50% hydrogen peroxide at ma pa type chem supply stores, used to
sterilize milk containers before milk is put in them. About $10
a gallon.

27% sulfuric acid high purity as 1.25 sp gr battery electrolyte for
dry charged batteries. about $3 a gallon in 3 or 5 gallon jugs.
Boil 3 gallons till it smokes to get about a gallon of 100% stuff.

Urea (pure) at fertilizer stores. About $10 a 50# bag.

31% hydrochloric acid at swimming pool supply and bulk cement
plants for
about $4 a gallon.

calcium hypochlorite (nearly pure) at swimming pool supply houses
at about a
dollar a pound. Its about 60 % compared to chlorox at 5.6%

11% sodium hypochlorite at janitor supply houses.(double strength
chlorox)

Please add your sources to the thread to help budding chemists in
this suppressive environment.

FYI when a kid before WWII, living in a mining town, we couldn’t
get fireworks but could buy # 6 fuse caps at $1.50 a box of 100,
and fuse at 1$ a 50 ft roll. We used those as our fireworks. We
played with yellow phosphorus, metallic sodium and potassium, made black powder, etc using five fingered school chemicals, and adults tolerated our blasting noises as kids just learning stuff. How things have changed...

---

**fart**

unregistered

posted November 04, 1999 07:34 PM

I made fuming nitric acid by using 98% sulfuric on prilled ammonium nitrate fertilizer and heating it gently. Use ALL GLASS, no plastic or rubber tubing or stoppers, for pure HNO3 eats everything I had available, and I finally glommed onto a retort and made a batch of fuming stuff. The sulfuric was made by boiling battery acid.

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**Ho ju**

Frequent Poster

posted November 04, 1999 07:50 PM

I do not mean to be disrespectful or anything like that but rjche, how old might you be? you said we in reference to pre ww2 so i am just curious.

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Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

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**megalomania**

Administrator

posted November 05, 1999 03:29 AM

Ahh, the perfect opportunity for me to post the results of my chemical survey from earlier this year. And of course I have misplaced the damn notebook, a temporary setback I hope.

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

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**rjche**

A New Voice

posted November 05, 1999 07:12 PM

rjche is 70 years old...
BTY I saw a couple sacks of fertilizer in a hardware store in a mall, and kicked it over and it said calcium nitrate... which is Ca(NO3)2... or a lot of NO3.

I didn't get it but often wondered if one could run the reaction: Ca(NO3)2 + 2KCl to get CaCl2 + 2KNO3, and use cooling to separate the KNO3?

CaCl2 is delequescent, meaning it is much soluble. At 32 F 100 cc water dissolves 60 gms, while at that temp 100cc water holds only 13 gms KNO3.

If that didn't work I believe freezing the solution could force the chemicals to crystalize out as the pure water froze out, but the existance of salt ice in the artic causes me to wonder about the efficiency of that.

The crystals ought be pure CaCl2 and others pure KNO3, but I never tried it so can't say whether the crystals would segregate or just mix it up with globs of each co-mingled.

Anyone thirsting for a KNO3 source might try that. A better reaction though would be using potassium sulfate instead of the chloride, but I've no source to recommend for that yet.

That, I saw posted in the ammonium chloride reaction earlier. Doint that would leave you with insoluble chalk and nothing else hardly in solution with the KNO3.

If anybody tries it please post your results.
Can't tell, we might need large quantities of KNO3 some day soon. When young I was told it was put in our drinking water to suppress our sex drive. If the NWO takes over we may have an unhealthy sex drive toward the UN critters who are milling about barking orders.

I have a question I have been wondering about for a while. look at this, I copied and pasted from last reply.

I didn't get it but often wondered if one could run the reaction: Ca(NO3)2 + 2KCl to get CaCl2 + 2KNO3, and use cooling to separate the KNO3?

why is calcium nitrate Ca(NO3)2 ?
why is the NO3 inparenthesis and then a 2?
I havent gotten around to reading my chem books.
also why is it 2KCl.
and why do you end up with CaCl2 and 2KNO3?
please explain this to me.
... always look on the positive side of things, blow things up not down

-- Ragnar Benson

rjche is there any chance you knew a girl named barbara mienburg during the war?!?!?.

... always look on the positive side of things, blow things up not down

-- Ragnar Benson

The parentheses ( ) are used to isolate a group of atoms from the main formula. For example you can have a nitrate -NO\textsubscript{2} group or a chloride -Cl as part of a molecule. When you have chemical XCl or XNO\textsubscript{2} we know that there is only 1 chlorine in the first and only 1 nitrogen and 2 oxygen in the second. Since a nitrate NO\textsubscript{2} is more like a modular piece of a chemical, it tends to attach itself to other molecules with more than one of itself. That means you can have 2 or 3 or 4 or 5 nitrates all attached to the same molecule. You cant say XNO\textsubscript{5} when what you have is five different NO\textsubscript{2}. To say that you have five nitrates you put the nitrate part in parentheses, so it becomes X(NO\textsubscript{2})\textsubscript{5}, another way of writing this is XN\textsubscript{5}O\textsubscript{10} which is the imperial formula, but this formula does not tell you much about the structure of the molecule. XN\textsubscript{5}O\textsubscript{10} could be any of a thousand chemicals, X(NO\textsubscript{2})\textsubscript{5} can only be a few things.

Having a number before the molecule is for balancing equations, a number 1 is always understood to be in front of all formulas. When you have a 2, that means there are 2 molecules of that substance. Nitrogen gas is diatomic, in its elemental state it is N\textsubscript{2}, and so is oxygen, O\textsubscript{2}. Calcium in its elemental state is just Ca. Now we have N\textsubscript{2}, O\textsubscript{2}, and Ca. When nitrogen and oxygen combine to make nitrogen dioxide gas (different from nitrate ion because of electron balancing, more on that in a bit) we have N\textsubscript{2} + O\textsubscript{2} = NO\textsubscript{2} this is of course not balanced because we have a nitrogen not doing
anything 😂. In the real world reactions between just one atom do not happen, there are countless numbers, but a formula is just a simplification. We now need another pair of oxygen atoms to react with our extra nitrogen. So the formula becomes \( \text{N}_2 + 2\text{O}_2 = 2\text{NO}_2 \). see how the number before the formula acts as a multiplier, \( 2 \times \text{N}_2 = \text{N}_2 \) and \( 2 \times \text{O}_2 = 2 \text{O} \). The equation is balanced. In the case of a nitrate, the nitrate itself has an extra electron. Electrons drive chemistry, every atom likes to have just the right number, that's why the periodic table is arranged the way it is. the noble gases have the perfect number, so they do not want to react. The halogens are missing one electron, they like to get an extra. Calcium has 2 too many electrons, a nitrate needs 1 extra. Calcium can give one of its electrons to a nitrate, but then calcium is still not a happy molecule, it finds another nitrate to pawn of its charge and everybody is just hunky dory at \( \text{Ca(NO}_2)_2 \). Of course this means you have \( \text{Ca} + \text{N}_2 + 2\text{O}_2 = \text{Ca(NO}_2)_2 \)

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**dlwdaw**  
Frequent Poster

posted November 06, 1999 09:50 PM 🧑‍💻

I guess I better read my chemistry books. ;/
and I thought nitrate was NO3

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-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

**megalomania**  
Administrator

posted November 08, 1999 03:28 AM 🧑‍💻

Oh, it is, I meant to say nitrite.

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
I've seen flowers of sulfur in 50 lb sacks in an amish feed store. The guy said they use it to make lime and sulfur insect sprays, and sulfur and molasses tonics for horses, cattle, and kids. It was high purity stuff, and flowers is micro dust fine. It cost about $10 a sack best I remember.

I pondered what this would do if fed into a power blower into the suction side to make a cloud of sulfur dust. If it was ignited as it began there would just be a huge blue flame and much SO2 gas, which would drive the devil from his den.

I have done this with a blower blowing seven dust into a basement to kill fleas. You gotta watch for flames though as some dusts are very igniteable, and igniting a basement of dust would really ruin a house, not to mention the change in your complexion after the burn scars healed, for the flame would exit the hole you were blowing through with great vigorousness, as they say.

Could be used as a gas generating flame thrower outdoors though to clear crowds of unruly "peepul".

Also the red lead on car battery plates, when all the acid is washed from it makes a red powder that is a very active oxidizer. It will make explosives, but not as good as chlorate, about the same as nitrates. It also will "go" spontaneously with some organic fuels, like glycerine, etc which normally go with permanganates.

Would Calcium nitrate be better to make HNO3 with because of the high amount of NO3, or are there problems with the calcium sulfate that is formed.

I have 2 questions:

1: Where can you get blasting caps? in Seattle?

2: What type of cap do you need for ANFO?

Thanks for all the help.

CT
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<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Text</th>
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<tbody>
<tr>
<td>Ho ju</td>
<td>posted November 10, 1999 03:32 PM</td>
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- The eagle may soar but the weasel does not get sucked into jet engines.  
- The beatings will continue until morale improves. |
| fart       | posted November 26, 1999 12:30 PM  | Those wondering about using calcium nitrate to make potassium nitrate (or nitric acid), check out this site that I found by searching the word saltpetre on mamma.com.  
http://home1.gte.net/erik1/foxfire5.html  
This is a description how they got calcium nitrate from caves, converted it to potassium nitrate, purified it, and made their charcoal, and sulfur, and made gunpowder for the civil war. It was strictly bush country chemistry, with utensils home made etc. |
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This is a description how they got calcium nitrate from caves, converted it to potassium nitrate, purified it, and made their charcoal, and sulfur, and made gunpowder for the civil war. It was strictly bush country chemistry, with utensils home made etc. |
"Black powder is and isn't hard to make depending on which end you look at it from. It is a long and tiresome task if you make more than ten pounds at a time.

"Out on the West Coast, as in some southern states, the trend by the government is to prevent its sale with mountains of red tape. Making your own black powder, however, is not unlawful as yet, as far as I know."

"By weight measure, black powder is made of seventy-five parts saltpeter finely ground, fifteen parts charcoal, and ten parts sulfur. All ingredients must be fine ground separately. This can be accomplished with either a mortar and pestle, or with a hand-cranked flour mill. Never mix all three ingredients before grinding unless you want to turn your mill into a deadly grenade, or your mortar into a cannon that can blow off your fingers or even your hand."

"Then the ingredients can be mixed with a small amount of water so the mixture comes out with biscuit-dough consistency. Usually when I mix the ingredients, I add just enough stale urine to make the batch bunch about like biscuit dough. The urine, substituted for water, gives the powder more oxygen and higher performance."

"Flowers of sulfur is ideal for gun powder, and it can be bought in most drug stores in four-ounce bottles or pound cans."

"It can also be found in pure deposits around volcanoes, and in early times, because it was found where molten lava issued from the earth, the sulfur condensed around the rims of the volcanoes was called brimstone."

"Today, in certain places around the world, sulfur is recovered from underground deposits by pumping live steam underground through pipes. The sulfur melts and, being lighter than water, is easily pumped out at another point close by. Then it is pumped into big ships that haul it to industries all over the world. That's why you can buy a hundred-pound sack for about three dollars in most places.

"Saltpeter, the chemical that produces the oxygen for the other ingredients when lit off, can be made by putting urine and manure of any kind in a big cement tank mixed with water until you have about three hundred gallons mixed up. Then you put on a tight lid and let it sit for about ten months. You have to have a drain pipe and valve at the bottom, and a stainless steel filter screen installed beforehand or you'll have one big mess on your hands. At the end of that time, you run the liquid that drains off through ashes into shallow wooden trays lined with plastic sheeting and let them stand for evaporation in the sun. When the water evaporates, potassium nitrate crystals (saltpeter) will form in the bottom of the trays."
"In the old days in cities, most outhouses were fitted with trays or drawers under the seats that could be pulled out from behind the building. They had night-soil collectors who were paid so much every month by the outhouse owners to keep those drawers emptied, and they'd come around with a special wagon into which they dumped the contents. When the wagon was full, it was hauled out to where another fellow bought the contents and dumped it into concrete tanks where the bacteria works it just like yeast works wine or bread dough. Then the liquid was run through ashes into shallow tiled or plain concrete evaporating trays or basins to recover the saltpeter."

"Today, saltpeter can also be bought in most drug stores in bottles or cans."

"Charcoal provides the carbon needed when the powder is lit off. When burning, the carbon assists in making potassium carbonates and carbon sulfates during the one one hundredth of a second that it is burning. Most of this is released at the muzzle of a smoke pole in the form of powder smoke. Some remains in the barrel in the form of fouling and should be swabbed out about every third shot if the shooter wants the round ball to continue to shoot true."

"The charcoal should never be made from hardwood as hardwood has too much ash. Such woods as chinaberry, willow, cottonwood, soft pine with no knots, or redwood and Western cedar make the best grade charcoal. A fifty-five-gallon drum with a snap-on lid and a match-stem-sized hole in the lid set over a fire pit is a good charcoal maker. Take the wood and chip it or cut it into inch chunks and put a bucketful in the drum. Then build a hardwood fire under the drum and when smoke begins to spurt from the vent, light the wood with a match. When the flame goes out, your charcoal is made. Rake the fire out from under the drum, plug the vent with a bit of asbestos fiber or a nail that fits in tight, and let the drum sit overnight to cook. You can then crush and powder the charcoal with a mortar and pestle, or run it through a hand-cranked grain grinder to a flourlike fineness."

"By the way, Just yesterday I took time out and made batch of powder, and this time, when I mixed the ingredients, I added homemade alder charcoal instead of redwood and improved the powder's performance 100 per cent. I recently bought a tight little sheet-metal heater stove for camp cooking and by accident discovered that getting a load of alder going good and then closing it up tight and dampering it until it went out and turned cold converted the alder into nice pure charcoal."

"When making black powder, never add any other ingredients or explosive powders unless you wish to turn your muzzle loader into a grenade that can kill you or cripple you for life. Keep your black powder stored in steel, airtight cans in a cool, dry place, and out of the reach of children. My parents failed to do that, and I've carried powder marks on my face for the last thirty years. A ten-year-old may think he knows what he's doing, but ten years don't give him enough prudence to think many things out ahead of time before he lights that match."

"The nice thing about shooting black powder is that commercial black costs about two cents a round, and homemade about a half-cent a round."

As the demand for powder grew in the Southern Appalachians, fairly large operations came into being for its manufacture. As Jim Moran told us, "Powder was made in this area. The big powder mill that was around here is gone now--the place burned up and all. But it was on Boozy Creek, and it was operated back in the early 1800s and possibly before by the Hughes family. They were also gunsmiths. They were somehow connected with the blockhouse which was on the Wilderness Road. That was where Boone wintered after his son was bushwhacked on the Wilderness Road. Now that was quite a settlement around there. One winter I went up on Timbertree Branch near the blockhouse site and there were about ten or fifteen cabins around there made out of poplar logs. They were only about twelve feet square--didn't have any windows or anything in them. I think they were the residue of that holdup of immigration when those people got that far and they were afraid to go on. I went back over there about five years ago, but there's none of that left there now."

"But these Hughes, they ground that powder on millstones. I found that out. I know one man who found the old order book for the powder mill. He had it photostated. That mill blew up twice. One time they found shoe tacks in the charcoal. The story was that it was sabotaged. One time it blew a fellow's hand off."

"Willow charcoal is what they used for the powder. And then saltpeter- you know you hear about saltpeter caves. Over around Saltville they've found a lot of the vats and stuff where they leached that out from bat guano. That was done during the Civil War. In fact, they've uncovered one of those caves in the last ten years or so and found the vats still intact in the cave. That's Saltville, which is about thirty-five or forty miles north of here. And the same thing in Big Stone Gap. Powder for the Battle of King's Mountain was made on Powder Branch near Erwin, Tennessee."

Another of these operations was located in Mammoth Cave. Recently, in a remarkable experiment there, potassium nitrate crystals from saltpeter were produced again in the traditional method. Carol A. Hill, one of the coordinators for the Saltpeter Research Group, describes the procedure that was used that day:

"Before the 1870s, caves were the primary source of nitrate used in the manufacture of gunpowder. Saltpeter mining was one of the first major industries of the new frontier, and one of the principle objectives of exploring new territory was to find saltpeter caves. Caves were mined by individuals and also commercially for national defense purposes during the Revolutionary War, the War of 1812, and the Civil War. Many homesteaders in the Virginias, Kentucky, and Tennessee had their own individual saltpeter caves and from them would make their own gunpowder in home-constructed V-vats or 'hoppers.'

"Making a V-vat entailed using a peg-and-hole construction. The holes were made with a hand auger; the pegs by whittling down the end of a log with a hatchet and then by trimming with a knife. The frame was then pounded together with a wooden mallet. A froe was used to make the side boards. Bolts of wood that were straight-grained and well seasoned were the best for this purpose. The glut was used as a wedge to split the log base of the collecting trough. The trough was
then hewn out with a foot adze and hatchet. After the hopper was constructed, twigs were laid in the bottom of the vat, and then wheat straw was laid on top of the twigs and along the side boards to help keep the vat from leaking.

"Cave dirt was tested for its nitrate potential by the following procedure: A footprint or mark was made in the dirt and left for twenty-four hours. If the print was scarcely visible by the next day, then the dirt was deemed high in niter. A mattock was used to break up the cave dirt, and a wooden saltpeter paddle was used for digging and scraping. The dirt was removed from the cave in gunny sacks and poured on top of the twig and straw in the V-vat. Buckets of water were then poured over the saltpeter dirt to leach it of its nitrate or 'Mother liquor.' The mother liquor (also sometimes called 'beer') would run down the sides of the V-vat and into the split-log base and out into the collecting trough. A dipper gourd was often used to transfer the mother liquor into a container. This same liquor was poured again and again over the saltpeter dirt because releaching caused more nitrates to be dissolved. According to the old reports, releaching went on until the solution was of sufficient density to float an egg.

"The next step was to combine the mother liquor rich in calcium nitrate with woodashes that contain high amounts of potassium hydroxide. The best woodashes for this purpose were made by burning hardwoods such as oak and hickory. The mother liquor was either poured directly over the woodashes or the woodashes were leached in barrels and the leachate directly combined with the mother liquor. Upon combination, a white haze could be seen, and this white precipitate (calcium hydroxide or 'curds' as it was called) would slowly sink to the bottom of the barrel. If the solution contained an excess of calcium nitrate, the product was termed 'in the grease.' An excess of woodashes produced a condition called 'in the ley.'

The woodash leachate was poured into the mother liquor until the white curds could no longer be seen precipitating out of solution. The remaining solution thus contained the still soluble potassium nitrate. This solution was dipped out into an apple-butter kettle (or "evaporator"), and a fire started under the kettle. Turnip halves were then thrown into the boiling solution to help keep it from foaming and to take up the dirty brown color. Oxblood (or alum) was also added to the boiling liquid and caused the organic material to rise to the top of the liquid and form a scum which, with continued boiling, was constantly ladled off. After a few hours of boiling, the hot liquor was poured through cheesecloth in order to filter out the remaining scum and organic material. Upon cooling, fine, bitter, needle-shaped crystals of niter (potassium nitrate) formed in
the liquor. These crystals were then collected and dried. Potassium nitrate crystals were far superior to calcium or sodium-nitrate crystals because they are non-deliquescent (do not take up moisture from the air) and, hence, would not make the gunpowder wet and unusable. The nitrate crystals thus obtained had to be further refined and purified. This purification procedure was done either by the individual and homemade into gunpowder, or it was done after the saltpeter crystals were sent to a refinery where the final gunpowder was made."
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Nitrogen triiodide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul</td>
<td>posted November 24, 1999 01:48 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>Is there any way to make Nitrogen triiodide with potassium iodide? Potassium iodide is easy for me to get a hold of.</td>
</tr>
<tr>
<td>Enigma</td>
<td>posted November 24, 1999 06:18 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Why on earth do you want to make NI3?!? I've seen pictures of that stuff being setoff with by a feather moving the crystals. Can anyone say 'stumpy'.</td>
</tr>
<tr>
<td>darcey</td>
<td>posted November 24, 1999 10:05 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>might be a bit of a bad idea to make this shit. I have a explosives video and it shows a guy that made some of this stuff. He said a fly landing on it will set it off, he got a feather on a huge stick and lightly touched the nitrogen triiodide and it went off. A friend of mine tried to make it and lost a finger.</td>
</tr>
<tr>
<td>Paul</td>
<td>posted November 25, 1999 02:35 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>Come on people, Im not going to make pounds of it! Its just something different. It is completely safe in very small quantities like &lt; a gram.</td>
</tr>
<tr>
<td>darcey</td>
<td>posted November 25, 1999 03:06 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>still if i was you i wouldn't be making it. too dangerous.</td>
</tr>
</tbody>
</table>
what tends to happen thought paul is you make less than a gram and
say "damn that wasn't a bad explosion, it didn't even hurt my hand"
so you make more and more, and then when you build up enough
and say "well the first didn't do much this can't either" adn then
baboom!!! there goes your hand. (maybe you are really smart and
relize that this would be wrong but soemtimes your judgment fails
and you feel like "super man" i mean come one you are a teen and
as a teen you feel you can do anything)

-----------------
-Knowledge is power, power leads to corruption, corruption is a
crime, crime doesn't pay. So if you know to much you will go
broke!!!

-The eagle may soar but the weasle does not get sucked into jet
engines.

-The beatings will continue until morale improves.

*Igenx*
Frequent Poster

Even among the teens, only the fools think they can do anything. I
am no fool. I am damn careful of what I will and will not do.

IP: Logged

xHeilos
unregistered

I made some NI3, igniting it with an airrifle and not touching it after
drying. sa long as it is _really_ wet, it is not explosive at all.
To make it from KI, you first havt to bubble Cl through the solution,
so you get pure I.

HelioS

IP: Logged

nbk2000
Frequent Poster

To make tri-iodide you first need iodine. Here's a way to make it
from sodium iodide, which is cheaper and less suspesious to obtain
then iodine.

2NaI + 2HCl + H2O2 ----> 2NaCl + 2H2O + I2

Simple, no? But remember, you have to calculate the proper ratios
by molarity, not weight. 1 mol. of H2O2 would be 38 gms but if your
using 3%, then you must multiply by 33.3 to compensate for the
dilution.

------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged
Correction, 1 mol. of H\textsubscript{2}O\textsubscript{2} would be 34, NOT 38, grams.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
Have any one ever heard of sprengel explosives?
It is a two component system developed by a dude called Herman Sprengel.
It is fuels and oxidizers that are mixed just before use. (mixed right before you detonate it)
It can be stuff like Vuming nitric acid with organic fuels or potassium chlorate with volatile fuels.
Potassium chlorate with most volatile fuels is said to be quite unstayble. Where the chlorate is much more stable with less volatile oily kind of fuels.
Stuff like nitro benzeen and even gasoline can be used with potasium chlorate.
Potassium chlorate with nitro benzeen was used in the removal of hell gate rock in New york harbor in 1885.
10% fuel + oxidizer sould work good.

Ok now I have a question to some of you people. Would one be able to detonate
A mixture of something like a permangenate and gasoline or some other fuel if the are mixed in a ratio so thet the oxygen is balansed?

Just about any oxidizer+fuel can be detonated I'm pretty sure.
Interesting about the Chlorate+solvent/fuel. Since it's hard for me to get AN, but I do have a batery recharger, I could use Chlorate for that purpose.

Not sure about this but I think that petrol products + potassium pergamanate react when mixed... may even ignite or generate gasses.
## Shaped charges

**Fjp92**  
Frequent Poster  
**posted November 27, 1999 10:55 AM**

Can some one tell me where can I get info on shaped charges? I am looking for the kind of info that will explain a lot on how they WORK. (There mecanism)  
The different types and what the different types can be used for.

Is RDX any good for shaped charges?  
What other types of explosives can be used for shaped charges?  
I would be gratefull if any one can help.

---

**Igenx**  
Frequent Poster  
**posted November 28, 1999 12:01 AM**

Add a plasticizer and it will work excenently for making shaped charges. PLEASE search for answers in the archive before posting a question. I was just asking about using C-1 (RDX plus a plasticizer) for using in a couple different configurations.

---

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HMTD vs AP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>darcey</strong></td>
<td>posted November 22, 1999 04:28 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>which one is the more powerful out of the two? A friend and i made up a batch of HMTD todau and let it off with great sucess. I found that the HMTD was alot easier to make then the AP (it only took 30 mins where the AP takes 48 hours). I also thought that the HMTD was alot more powerful. Anyone else a great fan of HMTD? I have seen the light and will be making HMTD well into the new millenium.</td>
</tr>
<tr>
<td><strong>wave</strong></td>
<td>posted November 22, 1999 06:32 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>yeah i like hmtd but if you follow the instuctions on mega site .</td>
</tr>
<tr>
<td></td>
<td>how HMTD are you suppose to have at the end if you use 3% of proxide</td>
</tr>
<tr>
<td><strong>darcey</strong></td>
<td>posted November 22, 1999 08:09 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>How to make HMTD.</td>
</tr>
<tr>
<td></td>
<td>* This explosive is VERY VERY VERY shock, friction and heat sensitive* in other terms if you hit it, jump on it, grind or ignite it, it will explode</td>
</tr>
<tr>
<td></td>
<td>Ingrediants: 6% Hydrogen Proxide (i acually use 3% proxide&gt; because no one sells the 6% , all you have to do it double the amount when using 3% )</td>
</tr>
<tr>
<td></td>
<td>Hexamine tablets or hexie tabs- you can find these at camping or disposial stores, they come in a little box and smell like fish.</td>
</tr>
<tr>
<td></td>
<td>30% Hydrochloric acid- you can get this stuff from hardware stores, just ask at the help desk (it will be somewhere near the brick stuff)</td>
</tr>
<tr>
<td></td>
<td>All you do is disolve one part, by volume, of hexamine in two parts of hydrogen proxide. Mix this well until no hexamine is undisloved. If</td>
</tr>
</tbody>
</table>
you are mixing large amounts i recomend that you place this in the fridge for about 15 mins or so just to let it all cool down before adding the acid. If you are using small amounts (tablespoons) i wouldn't worry about cooling it down. Next mix in one part hydrochloric acid and place into the fridge for 30 mins. Take out of the fridge and you should see little white crystals in the liquid. Filter these crystals out and WASH THOROUGHLY. FAILURE TO DO THIS COULD RESULT IN AN EXPLOSION.

*note*: HMTD gets very pissed off if you contaminate it with anything. That is why you have to wash it alot. You should never, i will say that again NEVER stir the mixture with ANYTHING when the acid has been added. When i said before to mix the acid into the hexie and proxide only swish it round in the jar or mixing contianer. Always wash all of your equipment in hot water but never with soap or dishwashing liquids, this could lead to an explosion.

---

**poison**
Frequent Poster

posted November 22, 1999 09:50 PM

Acetone Peroxides det velocity is - 5300 m/s
And
HMTD det velocity is - 4511 m/s.
The info was off megas page.
-Poison

---

**Blaze**
Frequent Poster

posted November 23, 1999 02:14 AM

It all depends on density.... as with most explosives. an example is PETN, in det cord dets at 7km/s but when heavily compressed into a detonator reaches near 9km/s.. the peroxides would be the same

---

**Ve He MT**
Frequent Poster

posted November 23, 1999 12:21 PM

Yup, on mega's site it also says that the AP in loose form was 1.18 g/cc and that the HMTD in loose form was 0.88 g/cc. HMTD pressed will detonated well over 5000m/s.

---

**Ho ju**
Frequent Poster

posted November 23, 1999 06:28 PM

Pressing HMTD? ha! that is suicidal. but i know what you were getting at VeHeMT. I would assume HMTD is more powerful just by the first hand accounts of the people on the forum. Most people say they have more luck with HMTD when setting off things like ANFO and others of the like.
is two different ways of making HMTD because I heard two different ways so far

one from Darcy - he talk about using Hydrochloric acid and one on mega site - he talk about a way that you don't got to use Hydrochloric acid

HMTD is louder but AP has more shattering power and it detonates anfo and stuff easier the HMTD. I prefer explosives that have more shattering power opposed to loudness.

-Poison

HMTD, use one of the processes below.

Process #1

Obtain 6% hair bleaching peroxide which is available from any beauty salon or beauty supply store. This is a 20 volume hydrogen peroxide.

Place 9 teaspoons of this 6% peroxide in a one pint canning jar or 500 ml beaker. In three portions dissolve by stirring 2-1/2 teaspoons of powdered hexamine (Crushed U.S. Army ration heating tablets, See "Kitchen Improvised Plastic Explosives" chapter 2, "Urintrpine" etc.). This is stirred until all the hexamine dissolves. The solution should then be chilled in an ice water bath for 1/2 hour. To this chilled solution add, in four portions, 4-1/2 teaspoons of powdered citric acid. Citric acid is readily available and should be found with canning supplies or in a pharmacy. With each addition the solution should be stirred until the citric acid dissolves in the liquid before another addition is made. When all the additions have been made continue stirring the liquid. The beaker or jar containing the
solution should remain in the ice bath. The solution will become cloudy. With the completion of the 1/2 hour stirring the liquid is placed in a refrigerator. This will speed the process. If a refrigerator is not available let the solution stand for 24 hours. Filter the solution through a paper towel or coffee filter. The white substance is the explosive.

CAUTION: HMTD is sensitive to shock, impact, friction, heat and open flame. Extreme care should be exercised. HMTD will detonate from any of these stimuli even when soaked with water.

These white crystals are washed with 45 ml of distilled water. Tap water can be used if necessary, but will yield a compound of lesser purity. They are then washed with 75 ml methanol alcohol. These crystals are allowed to dry in a cool dry place. If a 30% technical grade ("Superoxol") of hydrogen peroxide is available it should be used instead of the 6%. If 30% is used the proportions are as follows to use in the same process as above are:

HYDROGEN PEROXIDE. "Superoxol" (30% d. 1.11 G/cc)- 185 G
HEXAMINE (Crushed ration heating tablets) 56 G
CITRIC ACID (tech. grade or food grade) 84 G

These are used in the procedure given above. Simply "plug in" the amount immediately above for the spoon wise proportions given in the 6% hydrogen peroxide process and the washing would be done with 150 ml cold water. Of course in the procedure if 35% or 40% is the only type hydrogen peroxide available, then simply calculate the actual weight of hydrogen peroxide. We know that 185 G. of peroxide are used above. This is 30% hydrogen peroxide. 185 G. X.30=55.5 G.. We know that we need 55.5 G. hydrogen peroxide. Suppose we have some 40% peroxide. We take our 55.5 and divide by .40 thus 55.5 / 0.40=138.75. Simply use 139.0 G. of this 40% hydrogen peroxide in the procedure above. The yield of this process with 30% hydrogen peroxide is much greater than is the use of 6% hydrogen peroxide. But with the 6% being the easier of the two to obtain it still would hold possibilities

PROCESS # 2
This second process is one of very easy acquisition of the main ingredients. Yield is not as high as the procedure above with either strength peroxide. This process makes use of the easy formation of hexamine and the parallel formation of a slightly acid solution. This acid is liberated from the ammonium sulfate salt. It is, of course, sulfuric acid.

This acid performs the function of the citric acid in the procedure above. This is after the free ammonia and the formaldehyde form hexamine. Yield will be relatively low with this procedure but the materials are readily available and cheap. Since this procedure takes place at a elevated temperature there will be some lost of product to this subsequent heat and the decomposition that will accompany it. This process will work and could be used if necessary.

Five hundred grams of 3% hydrogen peroxide are placed in a quart jar or 1000 ml beaker. Three percent hydrogen peroxide is available as an antiseptic solution in grocery stores, etc... To this is added fifty grams ammonium sulfate. Ammonium sulfate is available as common fertilizer. This is stirred until dissolved. This liquid should be heated in a water bath to 55 degrees C. (131 degrees F.). Immediately when the temperature reaches this temperature add 5.3 grams of 37% formaldehyde solution. Stir this solution well and take off water bath. Let this liquid cool to room temperature and set for 24 hours. A white product will be seen in the liquid at this time.

CAUTION: This white product is dangerous and sensitive to FRICITION, SHOCK, HEAT OR FLAME. Handle with great care !! Even wet H.M.T.D. is dangerous and will detonate with ease.

This is filtered out and washed with one washing of 50 ml distilled water and then with 75 ml of 100% methanol. The methanol will speed the drying process. This white fluffy powder will be H.M.T.D. This powder will be sensitive to friction and small quantities should be handled.

"...always look on the positive side of things, blow things up not down"
i find it alot easier to make with HCL acid. I have tried to make it with citric acid and had no luck. Think i will stick to the HCL way, its a lot easier.

Dlwdaw, if you want to you can copy the bookz to your site. Just change the style and coloring so it won't be confused with my sites styling. Or you can link to it as long as it's obvious it's on my site and not yours.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

thanks, did you type it up?
I just wanted to make sure before I just took them.

thanks

----------
-dlwdw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Does anyone know if the heat bars Trioxane are good for making anything other than heat?

The formula is C3 H6 O3

Its name is Formaldehyde Trimer or 1,3,5, Trioxane

and its available as military surplus Fuel, Compressed, Trioxane Mil spec Mil-F-10805C

not that I know of. I'm pretty sure trioxane can't be used for anything useful besides burning it...
Are there any other good demolition explosives with heaps of power than ANFO and AN based explosives? I'm after a explosive that blows up not down and would be able to shatter cement. Would RDX be any good? or potassium chlorate explosives?? I have only ever used the chlorate explosives once for puncturing a tank but not to shatter cement. The only way I can buy AN is in a 50kg bag (which is too big for what I need) and nitromethane is non existant. RDX might be hard because nitric acid is hard to find.
Author | Topic: want info
---|---
TERROR
A New Voice | posted November 29, 1999 03:49 AM

i want to know how to make nozzleless rocket
i have some nozzleless rockets about one and half " long and
consists of an aluminium cartridge filled with some white shit.i
dont know about this powder.it is white and leaves blue stains
after burning with a whistle and red flame.i want to know about
this mixture pls help me.

IP: Logged

darcey
Frequent Poster | posted November 29, 1999 05:47 AM

I think your after the whistle mix, i took this from a dutch web
site.

Screaming Banshee rocket

Last November AFN published an article, 'Stinger Missiles',
describing how one man made small, spin stabilized rockets that
make an interesting sound as they lift off, much like a hummer
or z-bomb. I used tooling of the same design and similar tubes
to make an interesting, whistling rocket. These 'Screaming
Banshee' rockets sound something like a gigantic bird of prey
screaming its head off when fired, very different than an
ordinary large caliber whistling rocket. The formula I used is a
variation on the 'Screaming Rocket' formula that appeared in the
PGI Bulletin last quarter. I had on hand some potassium
benzoate, but none of the sodium salicylate called for in that
article, nor did I have a set of whistling rocket tools for my 3/4"
tubes. I did have, though, a set of tooling for making the
'Stinger Missiles', which has a spindle 1 1/4" long -- somewhat
shorter than called for in the 'Screaming Rocket' article. On a
whim I mixed up a small batch of propellant substituting the
benzoate, milled to a fine powder for the salicylate, and pressed
a few motors. The results astounded me. They were some of the
loudest, highest performance whistling rockets I had ever seen.

For reference, the formula is as follows:
Potassium perchlorate (fine powder) 64%
Potassium benzoate 32
Red Iron oxide 1
Petroleum jelly 3

The benzoate I had was obtained in a prilled form, i.e., small round beads about the size of BB's. For these rockets the powder needs to be very fine. My wife found at a garage sale a small food processor for a pittance) that works well for reducing small amounts of the prilled benzoate to fine powder. I simply added the appropriate amount of red iron oxide catalyst to the benzoate prior to milling to produce a reddish mixture composed of a ratio of 32:1 benzoate/red iron oxide. Next, I placed the required amount of petroleum jelly in a beaker over a hot plate and gently heated until it melted.

Donning my respirator, I removed the petroleum jelly from the heat, turned off the hot plate. Lacking pure toluene called for in Mr. Vreyens' article, I then added about 5 parts laquer thinner for each part of petroleum jelly by weight, continuously stirring to dissolve the two together. I next added the petroleum jelly solution to the fuel/catalyst mixture and stirred the mixture until homogenous. Then I added the oxidizer (the KClO4) slowly while stirring continuously with a wooden spoon for several minutes until homogenous. The mixture had at this point the consistency of a thick soup and beaker was warm to the touch. If the mixture seems too dry or thick, I can add extra laquer thinner at this stage. I spread the composition out in a layer about 1/2" thick on kraft paper over newspapers to dry overnight. I have found that it is important to be sure the mixture is thoroughly dry from the laquer thinner before pressing the motors. A slightly damp mix can cause some shrinkage of the propellant grain over a period of days or weeks, transforming the rocket into a large ground salute. I have also found the formula and method of preparation as given in Mr. Vreyen's article to be comparable in effect, and perhaps less subject to detonation than the benzoate version of the formula. The only significant difference seems to be that Vreyen's original formulation made with pyro grade sodium salicylate seems to produce a sound that is more of a clear tone, without most of the raspy effect characteristic of the benzoate mixture. It is certainly easier to use the pyro grade sodium salicylate than to hassle with milling the prilled benzoate to a useful powder.

When the composition had dried overnight, I then carefully ran the mixture twice though a 20 mesh sieve and then stored in a paper container so that trace amounts of solvent could evaporate. After several days, the mix was ready to press.

I used custom made tooling originally designed to make spin stabilized, Warhead Launcher type rockets from 3/4" i.d. convolute wound tubes. Interestingly enough, the 3.25" long tubes cut for the WHL rockets worked very well for these 'screaming banshee' rockets, too. The process for making the motors differs mainly in that the screamers use no clay choke (as with mosty, if not all whistling rockets), and in lacking a side vent. These rockets seem to require no significant length of open tubing below the propellant grain to achieve their characteristic wail. Mine contained a propellant grain that ends about 1/8" from the rear end of the motor tube, and several
casual observers have assumed erroneously that they were looking at a red clay nozzle, when in fact they were actually seeing the end of the propellant grain. I found a one ton arbor press works satisfactorily for pressing the motors, using all care and caution due the sensitive composition. I pressed the composition in increments of about 1 i.d. per pressing, until reaching about 1 1/2 times the i.d. above the spindle. I finished with my favored garniture, and fasten to a stabilizing stick of appropriate length. I use a length of slow thermolite taped to the stick and just touching the outside of the propellant grain for ignition. Quick match inserted into the orifice, on the other hand, detonated the motor.

Of course, I exercise great care in both making and firing these high energy, 'screaming banshee' rockets. I think they have some potential as a display item, but are more prone to detonation than ordinary black powder type rockets. Certainly, the 'Screaming Banshee' is still subject to the same stabilization and fallout problems as are other stick stabilized rockets. I think you will agree, though, that the combined audible and visual effect of these rockets is unique and noteworthy.

Addendum: 12/92 Since writing this article, I have learned that Service Chemical Co. is now carrying a pyro grade potassium benzoate powder. This stuff, as far as I have been able to ascertain, is superior to the hand milled variety, and one heck of a lot easier to use. Additionally, there has been some suggestion that the tendency of the benzoate mixture to detonate in the larger sizes may be due, at least in part, to the wide variation in particle size of the hand milled benzoate used in the original experiments. This commercially prepared powder may alleviate that problem to some extent. I would appreciate hearing from anyone with experience supporting or detracting from this hypothesis.

but this shouldn't really go in the explosives forum, more weapons or misc.
anyone got Lowry's email address?? - The Explosives and Weapons Forum

Author: darcey
Frequent Poster

posted November 25, 1999 03:21 AM

has anyone got Lowry's email address? He is the guy that wrote the makeshift arsenal.

Author: VeHeMT
Frequent Poster

posted November 25, 1999 02:23 PM

It would appear Lowry does not want anybody to e-mail him. Here is a quick history lesson, Lowry created the original Bravenet forum. He disapeared soon after and we used that forum for a long time (6,7 months or so) until some people started abusing the fact that you didn't need to register or need a password or anything like that to post, simply enter your name and message and post it (Lowry had disapeared so we couldnt control the forum). We then moved here.

Author: megalomania
Administrator

posted November 29, 1999 07:17 PM

He emailed me little more than a month ago, thanked me for keeping the forum going. Some may have noticed his website is updated from time to time, and after he disapeared. He is around, I am not sure where.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Nitric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fjp92</td>
<td>In one of the previous posts some one said he did. I know NH4NO3 and H2SO4 will react to give nitric acid. But what if the (NH4)2SO4 starts to decompose because of heating the stuff. Wont this react with the nitric acid or contaminate it or is the temperature needed to make AN and H2SO4 react to low to decompose the (NH4)2SO4 that forms in the reaction.</td>
</tr>
<tr>
<td>megalomania</td>
<td>It can decompose at 280 °C, but will not harm the nitric acid. Visiting Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
</tr>
</tbody>
</table>

All times are ET (US)

Administrative Options: Close Topic | Archive/Move | Delete Topic
**Author**

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<tr>
<th>Dr-D</th>
<th>Toy cap guns</th>
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</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

Dr-D posted October 31, 1999 03:46 PM

Does anyone know what is used in the caps that toy cap guns use? I extracted this powder and found that it flashes in the open and when confined in the least bit, it explodes. I took the powder from a 12 shot ring cap and poured it loosely into a torn piece of paper, the ends weren't even folded down, there was open parts all over it. When placed over a flame via a long rod it exploded with a deep bassy noise and I could feel the boom. Was quite impressive.

Also does anyone know what chemicals the smoke generator machines use for parties and what not?

---

**Author**

<table>
<thead>
<tr>
<th>dlwdaw</th>
<th>Toy cap guns</th>
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</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

dlwdaw posted October 31, 1999 04:29 PM

It is usually amorphous (red) phosphorous with KCLO3, S, sand, and glue.

I tried to make a blasting cap out of that one time, and I pressed about 1 g. of the stuff (wet) into a blasting cap body. I only did one gram, but later I took some wet mixture that I had left and lit it, it still burnt very well, and when dry it took barely anything to detonate it, so I said screw it and threw the cap out the window.

It landed and made a LOUD bang.

be careful with this stuff

-------------

dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Dr-D
Frequent Poster

Hmmmm. Yes I know that phosphorus+ a chlorate mixture is extremely unstable... My question is, 1) how the hell did you get red phosphorus? (even mail order thats like 100 bucks a pound last i checked) and 2) Could i just use chlorate+ sulfur or would that not be sensitive enough?

IP: Logged

dlwdaw
Frequent Poster

He he he.
my mistake, I meant I tried to make a blasting cap out of the TOY CAP mix,
I can get (never have though)
red P for about 80 bucks(US) a pound plus about 20 dollars hazard shipping

------------------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

nbk2000
Frequent Poster

I can get a kilo of RP for $100 and that includes the shipping. Check the hive forum for details.

------------------------
"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged

Dr-D
Frequent Poster

Forget RP then. Too expensive... How is the sulfur+ chlorate mix? how sensitive/would it explode when loosely confied also?

IP: Logged
Ve He MT  
Frequent Poster

Sulfides and Chlorates always have been and always will be a NO NO!. If you really want to use the amrstrong explosive from the toy caps, then get it from the toy caps. Never try to make anything of any large quantity with it. Never store any large quantity of it. If you are only interested with this type of mix simply because of the raw power you saw, think about how much more powerful High Explosives are. If you wanted to make something powerful thats the way to go. There are many powerful and stable HE's out there. Armstrong mix is not safe enough to use except in small quantities (I used very small amounts. less then a gram, ontop of 1/4" rockets for warheads).

megalomania  
Administrator

I thought those caps uses silver fulminate?

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Dr-D  
Frequent Poster

No, im pretty sure its red phosphurus. As I know that smell before. I know phosphuris is dangerous stuff, as being burned by white P was not fun even though i wasnt hurt bad.

I thought armstrong mix was chlorate+P... then what is chlorate+sulfur? just as bad/powerfull? (very small quanities will be used)

dlwdaw  
Frequent Poster

sorry, I know your right most of the time megalomania 😏 but on the pack it says it contains all that suff. it says glue, sand, Red P, KCLO3, and S

------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Dr-D
Frequent Poster

posted November 02, 1999 11:40 PM

Silver fuliment is in gun primers and snap n pop things I do believe.

Will sulfur + chlorate be just as sensitive as chlorate + p? or less or more?

Ve He MT
Frequent Poster

posted November 03, 1999 12:31 PM

Don't mix potassium chlorate with sulfur.

Ve He MT
Frequent Poster

posted November 03, 1999 12:36 PM

I'm sorry I meant to say don't mix chlorate's with sulfur.

Dr-D
Frequent Poster

posted November 03, 1999 08:10 PM

I'm not stupid and I'm not going to blow myself up by mixing large or even small quanities together. What I intend on doing is making a very small amount like in the caps as a sensitive tip for test purposes. I can find out by myself but was just wondering if anyone had handled it before.

Predator
Frequent Poster

posted November 29, 1999 05:55 PM

I always used toy-cap-gun powder for my explosives and improvised weapons / guns.

It has caused a few nasty close calls too, like that time I tapped in a projectile (it had a buffer layer of tissue too) on top of the powder very lightly and it went off and through the wall under my armpit :/

I heard it was Potassium Chlorate with Red phosporous sand glue?
Oh, I also heard it was classed as a HE (High Explosive)

quote:

but on the pack it says it contains all that stuff. it says glue, sand, Red P, KCLO3, and S

Could you get a scan of that for us Dlwdaw? Cheers. The british and irish packets of caps don't have the ingredients listed, just a brand called "Wicke" and says it contains 14g 'Brutto'
I can't get a scan, but I am sure its those ingredients, but be careful with this stuff, before I knew anything about explosives I was grind some in a smooth aluminum "bowl" with a plastic pen, it was about 1g (many packs of caps), well, it was wet (only good thing about the whole experience), it was going fine, but I pushed a little too hard, the whole batch went up, it was too little to do any damage, but I learned, now that I think of it, it was only about 1/4 g.

I don't have a very good scale so I'm not sure, but all I did was scorch the bowl, and slightly burn my finger.

I think you should not mess with this stuff AT ALL, AP is safer, (yes it sounds impossible, but yeah it safer), and more powerful.

----------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: ap</th>
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<tbody>
<tr>
<td><strong>TERROR</strong></td>
<td></td>
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<tr>
<td>A New Voice</td>
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<td><img src="image" alt="Image" /></td>
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<tr>
<td>posted November 29, 1999 09:19 AM</td>
<td>[Profile] [Register] [Preferences] [FAQ] [Search]</td>
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<tr>
<td>is it possible to detonate ap with the help of a wick of bp? i heard that it is heat senstive and if not then what should i use except caps. is it possible to detonate it with kclo3 + red phousphorous mix.</td>
<td></td>
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<thead>
<tr>
<th>Author</th>
<th>Topic: ap</th>
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<td><strong>Ho ju</strong></td>
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<td>Frequent Poster</td>
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<tr>
<td>posted November 29, 1999 03:41 PM</td>
<td>[Profile] [Register] [Preferences] [FAQ] [Search]</td>
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<tr>
<td>oh yeah AP will be set off by just about anything. a match, fuse, blasting cap (which is going overboard i think)...hell if you drop it far enough i am sure it would go off.</td>
<td></td>
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-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves. |

<table>
<thead>
<tr>
<th>Author</th>
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<td><strong>fart</strong></td>
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<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>posted November 29, 1999 05:36 PM</td>
<td>[Profile] [Register] [Preferences] [FAQ] [Search]</td>
</tr>
<tr>
<td>Unless you are a very skilled pyro experimenter, refrain from tinkering with KClO3/Red P mixtures.</td>
<td></td>
</tr>
</tbody>
</table>

The encyclopedia of explosives says hardly not a single experimenter has fooled with that "Armstrong" mixture without the scars to prove it.

I have used it before, and if you do it exactly right it will not harm you, but it can "go" in unsuspected ways.

For example I stored it wet in sealed poly bags. About 4 months after storage at room temp, bags began to "go" while soggy wet. They did not explode but did fill the storage shed with great and dense white smoke, and they scorched the metal shelf they rested upon.

I got my armstrong tattoo by grinding it wet with alcohol, because I did not have the recommended grade of freon to keep it wet with while manipulating it. All went well with several batches, then one "went", and
the hand holding the pestle was scorched black. It did not explode, but flashed in a fierce fire, too fast for reflexes to get away from. The temp was several kilo degrees, and the burns were considerable, in the milliseconds it took me to snatch the hand away.

Had it been dry and "gone" I would have considerable mortar and pestle parts still in my hide. It is far more sensitive than mercury fulminate, chlorate/sulfur, Ap, and nitro glycerine.

For an example of how fierce it is, it has a liberation heat of almost 1500 calories per gram. Nitro glycerine has about 500, Don't know about AP but it is probably around 500.

Since you ask what will set of AP, when those who work with it know the proper question is what will not set it off, I presume you might fool with chlorate-phosphorus without realizing the consequences. Avoid it until you can answer your own such questions as the one you ask about, and a lot more difficult questions as well.

There is an online Historical Chemistry Book posted out of australia that I recommend all novices read. Its easy reading, and although it was written a century ago, it will explain much to you. The URL is: http://www.ntu.edu.au/education/wardonli.htm

It downloads quickly and in two parts, chapters to X and then the rest.

Dr-D

posted November 29, 1999 10:25 PM

Ah yes, I asked a while back the sensitivity of chlorate/sulfur compared to chlorate/phosphorus but didn't get an answer..

How sensitive is chlorate+sulfur compared to AP or chlorate+Phophurous? And would chlorate+magnesium sulfate react?

Ho ju

posted November 29, 1999 11:26 PM

to test the sensitivity of that stuff just get some caps and fool around with those to see what it takes to set them off. you will notice that one little cap lets off tons of heat and alot of smoke. it is pretty cool.

----------------------
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasel does not get sucked into jet engines.

- The beatings will continue until morale improves.
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<th>TERROR</th>
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<tbody>
<tr>
<td>A New Voice</td>
<td></td>
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</table>

I have experimented with kclo₃+s powder. But it is not too shock sensitive. Here in Pakistan this mix is used in a device consists of a pipe and a rod in it. One has to put powder in this device and after inserting the rod in one has to push the rod inside it with a great force but it really gives a loud report. This device is called "rakla" in Punjabi (language). Let me tell you another shock sensitive exp. It is a mix of kclo₃ and realger (arsenic tetra or tri sulphide) it is really very shock sensitive red coloured powder. I have made hundreds of throwing bombs with this mix by mixing it with some stones or pebbles and raping it in a paper. Then I make it hard enough using a thread. Now it is ready to throw and it can be detonated with the help of a airgun shooting a pellet on it. It is really cool and gives a very loud report. Be careful the stuff is really dangerous and I got three injuries as the bomb dropped when I was rapping it with a thread.

<table>
<thead>
<tr>
<th>fart</th>
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A warning about the Australian chemistry book cited above, it contains many mathematical errors in its sections on chemical calculations. It would be a good test book for a student who already knows how to balance equations, to correct all the errors it has. However, it does have much information about elementary chemistry and is the only book I found on the web that is online for those not able to get a book elsewhere.

A standard, used college level first course chemistry text of recent publication would be more accurate, and could probably be bought at a college used book store.

All times are ET (US)
Author: Jolly Roger  
Frequent Poster  

posted November 30, 1999 06:12 PM  

Dunno if anyone would be interested in this but here goes:  
http://www.state.nj.us/health/eho/rtkweb/rtkhdfs.htm

This site has data sheets on many of the chemicals we know and love! It also has details on handling, health precautions etc. I know many people couldn't give a sh*t but it has its uses. If anyone else has any similar sites with more chemicals I would be interested to know.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Can someone please tell me Lowrys site?</th>
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<tbody>
<tr>
<td>PEACE</td>
<td>posted November 30, 1999 08:15 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>id just like to know lowrys new site.....thanx</td>
</tr>
<tr>
<td></td>
<td>also if red dot double base powder is detonated, not just lit up, will it increase in power?</td>
</tr>
<tr>
<td>Blaze</td>
<td>posted November 30, 1999 07:08 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
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<tr>
<td></td>
<td>although not much is new on it, its <a href="http://go.to/explosives">http://go.to/explosives</a>.</td>
</tr>
<tr>
<td></td>
<td>red dot is one step behind bullseye, and contains more nitroglycerine than green dot (as in makeshift arsenal) so it should work.</td>
</tr>
</tbody>
</table>

All times are ET (US)
Can someone please maybe tell me what the specific gravities for H2SO4 98% and HNO3 98-100% is?
I do have some values in a text book but not for these percentages.

Well if I remember right Enigma told me that 100% H2SO4 has a spec. gravity of 1.84 g/ml

Here are the densities for nitric and sulfuric acids in water solutions at 20 °C:

<table>
<thead>
<tr>
<th>Nitric Acid Sulfuric Acid</th>
</tr>
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<tbody>
<tr>
<td>1% 1.0036 1.0051</td>
</tr>
<tr>
<td>10% 1.0543 1.0661</td>
</tr>
<tr>
<td>20% 1.1150 1.1394</td>
</tr>
<tr>
<td>30% 1.1800 1.2185</td>
</tr>
<tr>
<td>40% 1.2463 1.3028</td>
</tr>
<tr>
<td>50% 1.3100 1.3951</td>
</tr>
<tr>
<td>60% 1.3667 1.4983</td>
</tr>
<tr>
<td>70% 1.4134 1.6105</td>
</tr>
<tr>
<td>80% 1.4521 1.7272</td>
</tr>
<tr>
<td>90% 1.4826 1.8144</td>
</tr>
<tr>
<td>100% 1.5129 1.8390</td>
</tr>
</tbody>
</table>

Fuming nitric acid
+ 7.5% NO2 1.526
+ 12.7% NO2 1.544

Fuming sulfuric acid
+ 5% SO3 1.862
+ 10% SO3 1.880
This is great information. I erred in thinking that specific gravity was linear. The more you know the more you know you don't know. :-)
### The Explosives and Weapons Forum
### Anyone from Australia know where to get nitromethane?

<table>
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<tr>
<th>Author</th>
<th>Topic: Anyone from Australia know where to get nitromethane?</th>
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<tbody>
<tr>
<td><strong>darcey</strong></td>
<td>posted November 15, 1999 05:07 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I'm finding it very hard to find pure 100% nitromethane. The best i can do is 45% model car fuel and i have been told that the consentration isn't enought. Also the only shop selling 100% pure tolurne just closed down and if i want it i have to order it! Its starting to piss me off. Lowery from <a href="http://www.go.to/explosives">http://www.go.to/explosives</a> lives in Australia and he has access to nitromethane, where did he get it?? If your out there lowery could you please tell me!!</td>
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</tbody>
</table>

| Blaze        | posted November 15, 1999 05:48 AM                           |
| Frequent Poster | Like i think he said ...... major hobby shops, in the capital cities are where you can find it, and than you might have to order it. always ask the people at the counter.. its a pretty legitamate produce that anyone could be expected to buy. |
| IP: Logged   |                                                             |

| Enigma       | posted November 15, 1999 07:13 PM                           |
| Frequent Poster | You could try race tracks as well.                        |
| IP: Logged   |                                                             |

| Jolly Roger  | posted November 30, 1999 06:03 PM                          |
| Frequent Poster | sorry, this thread is a little old but... Enigma - Never ever ever ever ask at (drag) race tracks for nitromethane as they are now instructed to report you. That was how McVeigh got caught for blowing up the WTC or something like that. dont do it - stick to model shops and chemical suppliers 😊 |
| IP: Logged   |                                                             |
Enigma
Frequent Poster

posted November 30, 1999 09:06 PM

Much appreciated. I shall nix that advice immediately. Would getting it online from race fuel suppliers also be "hazardous"? Not in 55 gal qty's but a gallon at a time several months to a year between.

Paul
A New Voice

posted November 30, 1999 10:04 PM

Well I order my NM from http://www.pricechemical.com Actually I live close to a distributer so I can pick mine up a gallon at a time. Pretty competitive at 28$ a gallon. Although I don't know if they ship internationally.
<table>
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<tr>
<td>darc ey</td>
<td>I need to get some 100% pure nitromethane and i have a big problem. The only place that sells nitromethane is a chemical supplier and they sell it for $133 (Aust) for 500ml. No joke. It eather that or buying a 22l tech grade barrel of it for $500 (Aust). I have tried car performance shops, model shops, fuel shops and no one has got it. There are only two types of drang cars that run it in Australia, that why it so hard to come by. Does anyone in Australia know where to get it or do they know Lowey's email address (makeshift arsenal writer) because he uses it al the time. I am desperate and don't really want to pay $133 for 500mls. That would make one 1kg ANNM bomb cost about $160! Fuck i may as well just make up some HMTD and blow up my money with it. anyone in Australia got any contacts to get this shit?? or know where to get it. I'm sorry i have brought this up again but i'm having alot of trouble trying to track down this essencial beast.</td>
</tr>
<tr>
<td></td>
<td>IP: Logg ed</td>
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<tr>
<td>Ve He MT</td>
<td>I don't have the details but it is possible to distill it from model fuel. It requires a process called fractional distilling. You'll want to buy the model fuel with the highest nitromethane content. Model fuel is pretty cheap too. Naptha (zippo lighter fuel) will work, after all in a post I do believe you said you tried it and it worked. There are many organic solvents/fuels that can be used. Just test a whole bunch, AN is pretty damn cheap.</td>
</tr>
<tr>
<td></td>
<td>IP: Logg ed</td>
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</tbody>
</table>
how much heat do you have to apply?
what will you get in the collecting flask?
nitromethane or methanol?
I'm getting a complete fractional distilling aparatus (including
hotplate) thru the mail, should be here any day now ;-) 

-------------
-dlwdaw  

"... always look on the positive side of things, blow things up not
down"

-- Ragnar Benson
Dr-D  
Frequent Poster  

posted November 24, 1999 04:31 PM

dlw daw, all I can say is that you seem to be a damn rich guy from all the posts I've read of yours 😁

Zippo lighter fluid is indeed naptha, and you can get it in mass quantities as Colman Lantern Fluid. (for lanterns and some stoves). It is also called White Gasoline. I use this for my Zippo as it costs about the same price as the little bottle of fluid, and you get a gallon as opposed to a small bottle 😁

IP: Logged

*Igenx*  
Frequent Poster  

posted November 24, 1999 08:14 PM

You can get pertolium naptha for (US currency) $13 per 5 gal, or 2.60 a gal at the local paint store. Is it cheaper getting it as camp stove fuel?

IP: Logged

darcey  
Frequent Poster  

posted November 24, 1999 10:01 PM

but there isn't any point in using the zippo fluid, its just the say as using fuel oil and just as hard to set off

IP: Logged

darcey  
Frequent Poster  

posted November 24, 1999 10:10 PM

dlw daw you are 13 right?? a 13 year old with $200, where did you get that?? pull it out of your arse?? i'm starting to have my doubts, every post you put up your getting something new and expensive.

IP: Logged

dlwdaw  
Frequent Poster  

posted November 24, 1999 10:53 PM

yep, I shoved my hand up my ass and pulled, fisrt i got some unused intestines that I threw in the trash, then $200 came out, my stomach is starting to hurt and I havent shit in a week, anyone know where those intestines go inside? I cant figure it out 😊

my dad buys me my stuff, it took alot of bugging, but he finally got it for me.

we are not rich, but we do have alot of money, I dont really get an allowance but my dad gets me what I want usually.

------------------

dlw daw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
By all the gods, you paid 200 bucks for a fractional distillation column, you got ripped 😳. For that price you could have bought an entire standard taper glassware kit which includes a Liebig condenser. When you turn a condenser vertical it magically becomes a distiling column. They make special columns like Vigreux and Snyder columns that can be pricy, but they don't beat the economics of the regular column.

What is the difference between a dedicated distillation column and a Liebig condenser? The distillation column has 3 small spikes on the inside to hold packing inside (glass beads or copper sponges). Other than that, they are identical, they are just used differently. A distillation column is a Liebig condenser when its horizontal, a Liebig can be a distillation column (even without the spikes) when it's vertical.

The price? From the overly expensive Fisher Scientific catalog:
- Liebig condenser Pyrex brand, 300 mm jacket, $85.85
- Liebig condenser as distilling column, Kimax brand, 300 mm jacket $70.00
- Snyder type column Kontes brand, anywhere from $40.50 for the basic to $113 for the big boy
- Vigreux column, 75mm, $34.80

All of these have standard taper ground glass joints, and of course a Vigreux or Snyder is completely unnecessary. I believe Chemglass probably has 300 mm columns for as little as $30 each also with standard taper joints. Then you can get some glass beads (pricy at $20-100 a pound!) or stuff a copper sponge from the grocery store (strange but that's what every lab seems to use, hey it works and it's cheap).

I suppose you bought a very large column, maybe it has some nifty stuff like the collection flasks. Still, if not, you got, as the commercial says, "e-screwed"

For the more adventurous, I have the info to synthesize nitromethane at my website in the synthesis section, I believe. Also, try out that Pyrotech Supplier at [http://jump.to.pyrotech](http://jump.to.pyrotech) they sell 100% nitromethane for a very reasonable price.

While distilling, nitromethane boils at 101 °C and methyl alcohol boils at 64.7 °C, so you will get methyl alcohol first. The temperature should be adjusted so that you get 2-3 drops of liquid per second. You will not be able to take a temp reading of the mixture (unless you have a special multi necked flask) but you will read the temp at the top of the column. It should read near 64-65 as pretty pure methyl alcohol should be coming out. Do not crank up the heat as you will disturb the temp of the plates within the column (the areas within a column where evaporation and condensation are occurring are called theoretical plates, these are not real plates). You must also wrap the column in insulation and protect it from drafts of air. Temperature fluctuations can throw off the function of the column. You can use fiberglass or cotton wadding...
as insulation then wrap aluminum foil around it to keep the insulation on the column.

Visit Megalomania’s Explosives and Stuff at http://surf.to/megalomania

I think you might be thinking something else.
I am getting a hot plate, 2liter boiling flask, vigurex column, adapter to put the thermometer in, lebig condenser, collecting flask, hard to explain

I didn't win the auction but I did email the guy he sold me one for 200 dollars,
I would not pay 200 for a column alone, I dont have a condenser, hotplate etc.
the setup should be here anytime now.
also, www.pyrotek.org sells 100% nitromethane for $35 a quart, I think its the same price.
also, how do you make chloroaetic acid?
I asked on sci.chem.organic.synthesis, and this is what uncle al said subject, chloroaetic acid:

Uncle Al wrote in message news:813l6u$kib@panther.Gsu.EDU...

> Dennis Wrenn wrote:
> >
> > how can I synthesize this?
> > thanks.
> >
> > Hell-Volhard-Zelinsky reaction, pathetic little druggie.
> >
> --
> Uncle Al
> http://www.mazepath.com/uncleal/
> http://www.ultra.net.au/~wisby/uncleal/
> http://www.guuy.demon.co.uk/uncleal/
> (Toxic URLs! Unsafe for children and most mammals)
> "Quis custodiet ipsos custodes?" The Net!
> --
> Paul J. Franklin (moderator - sci.chem.organic.synthesis)
> http://chemistry.gsu.edu/post_docs/coen/wnewshp.html
> Georgia State University
> Atlanta, GA

what I bought seems to be a good deal, I wasnt sure, but it sold on ebay for $50 more than I bought it for, ..... but why did you think that I only got the column?
"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

Thats still a little pricy for what you get. For a bit more you could have thrown in a Clasien, vacuum adapter, and seporatory funnel albeit with 4 smaller flasks (500, 250, 100, and 50-mL). All the glass tapers are mismatched sizes, I personally hate ball joints, and that hotplate looks like it came from Walmart. Of course your Vigreux will save you the cost of buying glass beads as it does not need a filler.

The Hell-Volhard-Zelinsky Reaction is indeed the right one. I have searched through a pile of synth tomes to no avail, no detials that is, just vague theoretical allusions. Basically you bubble chlorine gas into acetic acid while swirling around some phosphorus or sulfur. The reaction will make di- and trichloroacetic acid as well, eventually leading to nearly 100% trichloroacetic. I have no idea when to stop the reaction, how to seperate the products, and if the phosphorus is just mixed in as a powder. Phosphorus is the normal way, I found a reference that said you could use sulfur which is alot easier to obtain. All this seems simple enough now that I think of it...I would prefer to have the synth spelled out in detial though.

Heh, you pathetic little druggie 😁

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Does anyone have any good links that describe lab equipment and their uses/setup. I'm looking for information on the tools of the trade so to speak.
damn, now that I look at it, that does look like a walmart hotplate. 😞
well its something,
I didn't even have a hotplate before.
well there's one good thing,
they guy who won the auction got ripped off more than I did,
<am>

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
**Author**: HMTD Factory  
**Topic**: CO(NH2)2.HNO3, Urea Nitrate

---

**HMTD Factory**  
**Frequent Poster**  

I'll explain first:  
Urea Nitrate is different from Nitrourea, it only traps a HNO3 in it, so the urea isn't nitrated. It was used in the WTC terroist bombing along with Nitroglycerin, AN, and hydrogen. Most How-to-make-an-atomic-bomb articles recommend using urea nitrate as the explosive trigger. It is listed as an high explosive material and as a shock sensitive material (Not so sensitive as HMTD or etc.).

It is made by soaking urea powder into nitric acid solution, concentration matters not.

My problem is, a magazine article that described the bombing crime said urea nitrate is "gelatinous", but the one I got is white, frosty powder, and always seems to be a little wet after all efforts to dry it. So who messed up? Me or the Journalist?

In the movie "The World Is Not Enough", King (a character's name) is killed by a suitcase of bomb, the special effect showed a big, dusty, cold blast (blast without flame) came out of the building and later in the play, agents report the bomb to be ferterlizer based bomb using urea. If a bomb is ferterlizer based, it could be ANFO, but we know ANFO doesn't have urea in it, and nitrourea isn't a ferterlizer, so I assume it is urea nitrate, Can a suitcase of urea nitrate (actually the case is filled with some money) do such blast as the special effect blasting?

In the play the bomb is chemically triggered by a burning magnesium strip, but actually urea nitrate didn't respond well when I heated a small amount with open flame, I know burning Mg strip is very hot but….can it do it?

So far Urea Nitrate is the easiest to make high explosive I have known, powder-liquid mix, then dry, as easy as it becoming the terroists' best choice.
If you know something about urea nitrate please post it to let me know.

nbk2000
Frequent Poster
posted November 22, 1999 07:06 PM

Dude, you watch way too much TV. The journalist doesn't know what the fuck he's talking about. The just write down what other people tell them and the more dramatic it sounds the better.

The bond movie is just that, a movie. They make things up to fit the plot. All explosives are exothermic, fancy speak for hot shit. Why do you think explosions produce FIREballs.

No, you can't detonate urea nitrate with a magnesium ribbon. You could maybe ignite it, but then it's just burning.

And terrorist aren't always the smartest fucks on the planet. The Trade Center bombers used urea nitrate and ANFO. The building is still standing. The Beruit (?) Marine bomb used Semtex and completely leveled it. Oklahoma used ANNM and totally destroyed the building.

Point of this is that urea is OK but a poor substitute when you can get a real H.E. like ANNM or Semtex.

Dr-D
Frequent Poster
posted November 22, 1999 07:38 PM

Didn't the OK bombing use ANFO? Or is that what the press believed it was?

darcey
Frequent Poster
posted November 22, 1999 08:22 PM

No, the official press release was ANFO but this was only because little kids everywhere would go and try to make it. Because ANFO is hard to detonate they would have little sucess therfore not hurting themselves. Mcvain or when ever his name was got caught because he was asking around drag tracks for nitromethane and the feds caught up with him.
As I know the WTC bombing used urea nitrate, nitroglycerin, and hydrogen. And Oklahoma bombing used ANFO.

About the Mg strip ignited urea nitrate thing in the movie, I was guessing that the urea nitrate is in a confined container but has a mg strip as fuse. Things are very different with/without confined condition.

Of course all chemical explosions are exothermic, "cool blast" refers to a blast without visible flame. People use modified explosives to dynamite mines that have combustable gases in it to prevent igniting the gases.

Most commonly, adding salt crystals into the blasting material, since salt crystals burst when it absorbs heat, the blast is now cooled down that it doesn't have a fireball.

And uh, one thing, terroist bombing is totally diff from official demolition, terroist place bombs in open areas to "kill" more lives, and demolition squad had the time and human power to place high performance explosives in pillars and beams that support the building, they drill holes into concrete to place the explosive even, their goal is to "kneel down" the building, they destroy vital points that support the building's geometric standing. It can achieved with just some pounds of semt tex maybe, it's gotta be efficient.

But those nuts at WTC bombing placed 3 huge barrels of explosives plus hydrogen cylinders. When it went off, it actually punctured holes in total of 7 adjacent floors above and below.

Still a loud pop, huh?
Let's do a comparison between the different bombings.

1. Oklahoma City: Objective; kill as many federal employess as possible. Weapon; 5,000 pounds of ANNM. Results; 168 dead, only a handful of survivors from inside the building, and the building totally destroyed.  
Mission successful.

2. Beruit: Objectives; kill as many marines as possible. Weapon; 2,000 pounds of SEMTEX. Results; 250+ dead, Multi-story reinforced concrete building totally destroyed.  
Mission successful.

3. World Trade Center: Objectives; kill hundreds or more of americans and collapse the World Trade Center building. Weapon; 1,5000-2,000 Urea Nitrate. Results; less than a dozen people killed, buildings structural integrity never compromised.  
Mission failed.

So compared to 1 and 2, 3 was a loud pop. If the building is still standing than that is a visible sign of your failure that will forever stand to remind others of your failure. A vacant lot where a building once stood shows the power of your will.

Notice how the government now fears april 19th and hides behind concrete barricades? And how quickly did we leave Beruit after the bombing? Pretty damn quick. But the arab fools didn't acheive a thing for their cause except the shame of failure. Don't hear about them anymore, do you?

-----------------
"The knowledge that they fear is a weapon to be used against them."  
www.50megs.com/nbk2000

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How about the size of those 3 buildings?
Admittedly, the WTC is a much larger building than the others, but the bombs that destroyed the others were parked outside, while the WTC bomb was inside the building where the explosion was contained inside instead of dissipating in the open like the others. Yet, despite that advantage, it still failed to cause any significant damage. And yes, I've seen the pictures of the explosions effects, and it looks impressive, but it didn't damage anything significant. A parking lot, basically. Wow, striking a real blow for allah against the great American satan with that one, huh?

"The knowledge that they fear is a weapon to be used against them."

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How did it go from urea nitrate to effective terrorism? I didn't ask to discuss this, how about posting something really has to do with urea nitrate? Not who blew up some sand castle with a firecracker and says "feel the wrath of our Lord", or "I know some terrorist group did a better job than the one you mentioned."

If you admit WTC is a building harder to blow up, and you said it failed, then it only has to do with the building chosen by the bomber, now it even has nothing to do with the power of urea nitrate.

Man! things I want to know and what you wanna tell is totally not matched.

---

I've been telling you, but you haven't been listening. Urea Nitrate is weaker than ANNM, any explosions can make a dust cloud, explosions are hot, you need a detonator to explode UN, and a suitcase bomb isn't going to do as much damage as they show in a movie. Any thing I didn't cover?

And the point of the building comparisons is to show that ANNM or Plastique would be more effective the UN could ever hope to be.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

---
Or maybe you never seen the movie or have never heard about "cool
blast", which is
a technical term, and I am totally not impressed by the "dust" caused
by explosions.
I just tell what I saw, explosions can be clean, messy, smokey,
fireball, blowing, flashy, crispy or whatever. UN is not oxygen-
balanced explosives so the dust could be concrete bits or carbon
smokes.

Oh man, explosions are hot, UN could use detonator to set off,
everybody knows that.

But you really underestimated the power of explosives, a mixture
fuse-pipe bomb can do a lot of damages already, and how many pipes
can fit in half a suitcase? think about volume, UN itself contains
oxidizing agent within it's own molecule, which is better than mixture
explosives.

Maybe they confined the UN in some steel container, then set it off
with Mg strip fuse, maybe it could, maybe it couldn't, guessing can't
prove anything.

Things are totally diff with and without
confinement, I have a two-part mixture(no UN in it) I developed,
doesn't respond to flame, unless the thing get too hot the KClO3 react
itself, but if it sits loose in a suitable container, it just destroys things
better than gunpowder does for the same condition.

When I said stuff like it's been used by
terrorists and are the best choice of the explosive material by terroists,
it's proven, it's on certain article by experts, not my guessing. Think
about UN's availability, all needed is nitric acid of any concentration
and urine/urea.

I tried to let people know what UN is like,
not "Oh, I am so stick to UN, tell me the downside before I put them
in my mouth."

But I still thank you for posting though.
(Are you really sure the Oklahoma thing is
ammonium nitrate + nitromethane?)

If you have Nitric acid, screw making UN, RDX all the way.
Ve He MT
Frequent Poster

posted November 30, 1999 10:55 PM

bah :p

All times are ET (US)

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Contact Us | The Forum

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<tr>
<th>Author</th>
<th>Topic: LOUD Smoke Bomb</th>
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<tbody>
<tr>
<td>SpiritMagician</td>
<td><strong>posted November 25, 1999 09:03 PM</strong></td>
</tr>
<tr>
<td></td>
<td>Hey, this is cool. I made it last night. Get a shitload of muriatic acid- the same stuff they put in pools. Watch out for this stuff, it can burn a hole throug you. Find an empty 1 liter bottle of coke. put a whole bunch of Aluminum foil at the bottom. Now pour in some Muriatic acid about a quarter of the way full. Cap it, and throw it. QUICK! The bottle gets Very hot, and blows up in about 20 seconds. The two, foil and the acid, creates a generous amount of smoke. This is the same idea as a dry ice bomb, but less safer and it leaves lots of smoke behind.</td>
</tr>
<tr>
<td></td>
<td>Spirit Magician</td>
</tr>
<tr>
<td>dlwdaw</td>
<td><strong>posted November 25, 1999 09:46 PM</strong></td>
</tr>
<tr>
<td></td>
<td>hahahahahahahahahahaha safer than a dryice bomb, ha ha ha. that smoke is toxic and flammable, it is a mix of hydrogen and muriatic acid vapors, stick with dry ice, this one throws acid every where, a loud smoke bomb is one that is made from the powder from an estes rocket engine, put in a cardboard tube, like a very large firecracker, makes alot of smoke and is very loud alot safer too, doesnt burn holes in you, it may harm lungs because of the sulfur in the black powder.</td>
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<td>------------------------</td>
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<tr>
<td></td>
<td>&quot;... always look on the positive side of things, blow things up not down&quot;</td>
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<tr>
<td></td>
<td>-- Ragnar Benson</td>
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IP: Logged
megalomania
Administrator
posted November 29, 1999 07:07 PM

He rightly said it is less safe. If mayhem or messes are your game, use this.

------------------------
Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

nbk2000
Frequent Poster
posted November 30, 1999 01:23 AM

In california (where I live) dry ice or acid bombs are considered destructive devices and will get you the same time as a HE bomb. This was after some kids went around using acid bombs for vandalism in LA. But they are good for vandalism, so if that's what you're after, use them. Just don't get caught.

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"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

SpiritMagician
A New Voice
posted November 30, 1999 11:52 PM

The Dry ice bombs are much more safer. They would be great for putting in your neighbor's mailbox and blowing it to bits. Try it on your nemesis.

SpiritMagician

All times are ET (US)
### Good, powerful demolition explosives

**Author**

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<tr>
<th>Author</th>
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<tr>
<td><strong>darcey</strong></td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted November 28, 1999 05:09 AM</td>
</tr>
<tr>
<td></td>
<td>Are there any other good demolition explosives with heaps of power then ANFO and AN based explosives? I'm after a explosive that blows up not down and would be able to shatter cement. Would RDX be anygood? or potassium choride explosives?? I have only ever used the choride explosives once for puncturing a tank but not to shatter cement. The only way I can buy AN is in a 50kg bag (which is too big for what I need) and nitromethane is non existant. RDX might be hard because nitric acid is hard to find.</td>
</tr>
<tr>
<td><strong>Al Koholic</strong></td>
<td>unregistered</td>
</tr>
<tr>
<td></td>
<td>posted November 28, 1999 04:39 PM</td>
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<tr>
<td></td>
<td>If you do it right, plain old black powder will shatter cement. Its not all that hard stuff to break. Any of the HE will shatter cement if you do it right...it also depends on how much cement you are talking about.</td>
</tr>
<tr>
<td><strong>darcey</strong></td>
<td>Frequent Poster</td>
</tr>
<tr>
<td></td>
<td>posted November 28, 1999 06:30 PM</td>
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<tr>
<td></td>
<td>well its about 6 cement supports with a shed on top of it. But the thing is I need to blow the back end of the shed off so I need a powerful explosive that will blow the crap out of it. sorry about the two post, I hit the bottom twice</td>
</tr>
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IP: Logged
Al Koholic
unregistered

Well depending on what your goal is I would place minimal charges into each of the cement supports (if we are talking columns then drill holes and charge them). If its cinder blocks then you could break them fairly easily by placing a charge in one of the holes. Wire it all up so it will drop at once you know. About the back of the shed...couldn't you do it with some kind of tool other than explosives? If you wanted to do it with explosives then you're gonna have to place charges right so it only takes off the back wall.

Al

IP: Logged

darcey
Frequent Poster

no i can't use other tools. I can't drill the pilons either. Might just have to have a go and see what happens. Would an A.P.E using petrol be any good?

IP: Logged

Ho ju
Frequent Poster

to take down cement post i do not think you need to shatter them, just cut them. Do you know if it is reenforced with anything? (cause if there are steel poles running up the insides it is going to be tough to do) I would suggest, (assuming that you want to)
A) blow off the back of the shed
b)take out all of the supports

first place explosives (do not have to be all that powerful) on each edge of the end of the shed. and then place a shaped charge on each of the supports. use an electronic means of detonation and first blow out the back of the shed and then take out the supports with the shaped charges.

when you use the shaped charges makes sure they cut the all of the cement supports at an angle (about the same angle too) so the top can slide right off of the bottom.(if you do not want to use shaped charges for the cements pillars, just drill holes in the supports, insert the explosive, like a fairly large AP charge, and that should do it)

-------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.

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<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>darcey</td>
<td>December 01, 1999 12:56 AM</td>
<td>I won't be anywhere it when it goes off. I will be along way away.</td>
</tr>
</tbody>
</table>
| Ho ju      | December 01, 1999 05:22 PM        | well what i am saying when i say "safe use of the explosive" is not using too much of it for the job at hand. i know your not a stupid person, that is why i did not even mention the distance at which you should stand at. 😊
                  |                       | - Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
                  |                       | - The eagle may soar but the weasle does not get sucked into jet engines.
                  |                       | - The beatings will continue until morale improves.                      |

All times are ET (US)
Please tell me how to make a powerful detonator... - The Explosives and Weapons Forum

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<tr>
<th>Author</th>
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<tr>
<td>MR COOL</td>
<td>posted December 01, 1999 05:55 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
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</tbody>
</table>

Please tell me how to make a powerful detonator with the easiest and cheapest available materials in any chemicals store. I need a detonator for TNT. And please also tell me if I can make a very powerful explosive which has a small size or quantity, but a big explosion, with some cheap and easily available chemicals.

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<table>
<thead>
<tr>
<th>Author</th>
<th>posted December 01, 1999 12:05 PM</th>
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<tbody>
<tr>
<td>nbk2000</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
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</table>

Go here for the info you seek.
http://www.50megs.com/nbk2000/weaponsandtactics/explosivesindex.html

By the way, use the search engine for this site. Your question has been asked a million times already.

And if you need a detonator to set off TNT, why would you need to make homemade crap? You would already have about the best stuff there is, unless your lying and don't have any TNT, but just thought that would sound cool. Hmmm?

------------

"The knowledge that they fear is a weapon to be used against them."

http://www.50megs.com/nbk2000
Yeah AP would be the way to go. Simple and (in my opinion) very cost effective. On the subject, would someone please tell me how many grams of AP would it would take to Detonate say...2 pounds of TNT?

------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

---

*darcey*

Frequent Poster

**posted December 01, 1999 09:57 PM**

I find that this is alot easier to make then AP.

How to make HMTD.

* This explosive is VERY VERY VERY shock, friction and heat sensitive* in other terms if you hit it, jump on it, grind or ignite it, it will explode

**Ingredients:**

6% Hydrogen Proxide (i actually use 3% proxide> because no one sells the 6%, all you have to do is double the amount when using 3%)

Hexamine tablets or hexie tabs- you can find these at camping or disposial stores, they come in a little box and smell like fish.

30% Hydrochloric acid- you can get this stuff from hardware stores, just ask at the help desk (it will be somewhere near the brick stuff)

All you do is disolve one part, by volume, of hexamine in two parts of hydrogen proxide. Mix this well until no hexamine is undisloved. If you are mixing large amounts i recomend that you place this> in the fridge for about 15 mins or so just to let it all cool down before adding the acid. If you are using small amounts (tablespoons) i wouldn't worry about cooling it down. Next mix in one part hydrochloric acid and place into the fridge for 30 mins. Take out of the fridge and you should see little white crystals in the liquid. Filter these crystals out and WASH THOROUGHLY. FAILURE TO DO THIS COULD RESULT IN AN EXPLOSION.

*note*: HMTD gets very pissed off if you contaminate it with anything. That is why you have to wash it alot. You should never, i will say that again NEVER stir the mixture with ANYTHING when the acid has been added. When i said before to mix the acid into the hexie and proxide only swish it round in the jar or mixing contianer. Always wash all of your equipement in hot water but never with soap or dishwashing liquids, this could lead to an explosion.
Author | Topic: Does a Sparkler Ignite thermite???????

Use R
A New Voice

posted November 30, 1999 10:11 PM

i need to know if a sparkler ignites thermite cause i cant get mg. if not, is there any other simple alternatives??

------------------
------------------

IP: Logged

Paul
A New Voice

posted December 02, 1999 02:03 AM

If you have access to any fine powdered metals like Aluminum, you can use a flask powder to ignite it. I heard KNO3 sulfur and Aluminum will ignite it. I usually use a stronger oxidizer than KNO3 though.

IP: Logged

TERROR
A New Voice

posted December 02, 1999 02:25 AM

u can use a mix of sulfur and potassium chlorate.or just place some finely ground kmno4 on top of the thermite and then pour some glycerien on it.it will ignite kmno4 and thermite.u can use black powder also with some iron fillings.sorry for the spellings

IP: Logged

Ve He MT
Frequent Poster

posted December 02, 1999 01:17 PM

Most sparklers will ignite it. As for mixing sulfur and potassium chlorate, you shouldnt because the only uses this has is for some kind of impact ignitor(very dangerous). I believe you were referring to sugar and potassium chlorate. Please verify your information before handing out potentially dangerous information. If you add some sugar to the kmno4 it will increase its performance.

IP: Logged
### Trinitro m Cresol - The Explosives and Weapons Forum

**Author**: rolfnixon  
**Frequent Poster**

**Topic**: Trinitro m Cresol  
**posted December 02, 1999 02:41 PM**

I would like if anybody could tell me where to get m-creasol because trinitro-m-creacol almost sound`s like the perfect explosive to me.

Rolf

---

**Administrative Options**: Close Topic | Archive/Move | Delete Topic

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Powered by: Ultimate Bulletin Board, Version 5.38  
is muriatic acid the same as HCl
as the acid in making AP

Muriatic acid is hydrochloric acid (HCl), and should work fine for making AP, but check the concentration. I think that for making AP the HCl needs to be concentrated so leave it somewhere warm for a while, or boil some of the water off. I personally have never made AP due to a serious lack of acetone!

~ 30% is commercial strength, which is perfect for making AP, HCl gas is reliced very easily, leaving in warm place or boiling will actually make some HCl gas leave, which means that you are lowering the conc. every second you boil.

If you have some 20% that needs to be stronger, I think you can bubble this HCl gas through the existing HCl, which should raise the strength, but remember ~ 38% is the highest conc. acheivable in water....

-------------------
-dlwda

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
if anybody could help it would help me a lot

how much of sodium chlorate would it take to make ....well let say a M-500

also where can i buy alumnium mesh at

i try looking at paint stores but they only sell it in the paint is the stuff that you put in your radiator that clugs up holes.. is that alum...

Jolly Roger
Frequent Poster

posted December 01, 1999 02:29 PM

wave -
i use about 1/2 - 3/4 of a teaspoon of sodium chlorate and aluminium in m-100, but i have never heard of an m-500 (big or what?). It won't be much louder than an m-100, but if it's destructive power your after then make it bigger! 😊 2 1/2 teaspoons would probably make it enough (although for a firecracker its kinda wasteful!) If you cant find aluminium mesh powder, then put aluminium foil in a coffee grinder, and leave it on for a few minutes. Tear the foil into thin strips before you put it in.
thank you jolly roger for your help

if any body could help me out with the process of making sodium chlorate

well i put about 1/4 cup of salt in with 500ml of water and about 6in of carbon rod connected to the (pos +) wire..... and the (neg -) wire connect to a piece of 2 x 2 coffe can metal...

and when turn the charger to 6 volts and run it about a day and and i got a whole bunch of black stuff at the bottom on my jar...now i believe that is sodium chlorate or is it some thing else

if any body could help me please help me..because i dont know if i am doing it right

and if any one know how much "table salt" in cups or tablespoons to put in with how many cups of water please help me on that to..
thanks for all you help

-----------

Ho ju

Frequent Poster

posted December 01, 1999 08:13 PM

correct me if i am wrong but you need to super saturate the water with salt and the sodium chlorate is white in color. Hope it helps. also searh the forum for electrolysis or look on megas wep site

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-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.

Ve He MT

Frequent Poster

posted December 01, 1999 09:11 PM

The black stuff is carbon, from the carbon rods. Thats alright, it will do that. You'll need to run the thing for over a week, too. If you search the forum you'll find a lot of information on electrolysis.
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<th>Username</th>
<th>Date Time</th>
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<th>IP Address</th>
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</thead>
</table>
| wave          | December 01, 1999 10:26 PM | thank you for all the info  
so as far as i got so far iam doing it right  
i already went through 1 carbon rod  
and is suppose to look black  
also how would i know when it is done | Logged        |
| Paul          | December 02, 1999 01:59 AM | Ho Ju, if you where to create a super saturated solution the salt  
would almost immediately precipitate back out of the solution.  
Once the solution came in contact with a foreign object like the  
electrode the salt would begin to crystallize on the electrode and  
fall out of solution. And the only way you can get a super  
saturated solution would be to heat the liquid, thereby increasing  
the solubility of the salt, add enough to create a saturated  
solution, and then cool it without disturbance. So it is not  
necessary to create a super saturated solution. | IP: Logged |
| Jolly Roger   | December 02, 1999 06:42 AM | synthesis in this fashion isn't very efficient, and you would  
probably find it easier to use potassium chloride dietary substitute  
salt, with a small amount of salt in it. The efficiency can be  
increased by adding a small amount of potassium dichromate.  
NbK2000 sent me a document on this so (if he doesn't mind!) i'll  
send it to you. | IP: Logged |
| Kalium        | December 02, 1999 06:54 AM | Can i use an iron anode for the electrolyse or will this not work? | IP: Logged |
| Bandit        | December 02, 1999 12:00 PM | Jolly Roger,  
What ratio would you use for the sodium chlorate flash powder?  
Cheers  
Bandit       | IP: Logged |
If you search the forum you will find the answer to all of your questions.

bandit -

does it make sense. Remember that the addition of sulphur makes it highly friction sensitive, so be careful! 😊

Here goes:

1. Sodium Chlorate 7.5 oz
   Charcoal dust 1.5 oz
   Sulphur 1 oz (best with sulphur otherwise it is just a herb (fire lighter))

2. Sodium chlorate 2 oz
   Aluminium 1 oz
   Sulphur 1 oz (you can choose whether or not to add sulphur with this one it increases the power but makes the flash powder more sensitive to friction)

when the process is all done do i keep the soild or the water
also when the tin is starting to rust (i think)
do i keep it going or do i change it.

thanks for your help
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Ratios for making HTMD</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Igenx</em></td>
<td>posted December 03, 1999 12:10 AM</td>
</tr>
</tbody>
</table>

Using ammonia and paraformaldehyde to make the hexane, what is the ratio? Still in the solution, could the hydrogen peroxide be 'safely' added and still get an effective product? If so, what would be the ratio, by volume?

| dlwdaw     | posted December 03, 1999 12:23 AM |

Dont you mean hexamine?
you shouldnt use the solution, just boil the solution down and you will be left with hexamine, easy nuff.
you should do it outside, because I hear ammonia gas is deadly and formaldehyde fumes are not pleasant.

-------------
dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
you are right dlwdaw. The F. Gas is nasty shit, it smiles like it too. I would not want that stuff "creeping" around in my house. it has the possibilities of doing alot of damage.

-------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

Some problem I had before, use ammonia water and formaldehyde water to make HMTD, I didn't bother look up the ratio, so I just pour "a lot" of ammonia into fd, 'cuse extra ammonia escape into air. The mix heat up a little and gave a few bubbles. Get rid of water, there's white substance remain, should be HMTD as said.

But if u heat up ONLY formaldehyde solution to get rid of water, it gives u white substance TOO!, but I figured that's just formaldehyde polymerized itself, it's combustable in air too, the point is, if formaldehyde didn't completely react, it forms solid impurities, u just have to use them up.

The formula can be sorted out:

Not much bubble means theres no gas produced in the reaction, no N2 ,no O2, no CO2, no H2. there isn't much complexity involving breakdown of molecules, like acid react with alkaline in a way rather.

formaldehyde HCHO
ammonia NH3 (NH4OH is NH3 + H2O)
hexamine (CH2)6N4

6HCHO + 4NH3 -> (CH2)6N4 + 6H2O

so the formaldehyde to ammonia is 3:2

now u got the "molar" ratio, do you know the concentration of your solutions?
How do people know the volume ratio without knowing ur concentration of both solutions?

Don't put H2O2 into formaldehyde solutions, formaldehyde reduces oxadizing agents, it can shine stained copper by just dipping into it. If u drip one drop, just one fat drop of formaldehyde into, say, 60% nitric acid, you better RUN! run for your LUNG!!

This is from KIPE VOL. # 1 on my site.

Hexamine can also be made with common ammonia water (5%) and the commonly available 37% formaldehyde solution. To make this component, place 400 g. of clear ammonia water in a shallow pyrex dish. To this add 54 g. of the formaldehyde solution to the ammonia water. Allow this to evaporate and when the crystals are all that remains in the pan, place the pan in the oven on the lowest heat that the oven has. This should be done only for a moment or so to drive off any remaining water. These crystals are scraped up and placed in an airtight jar to store them until they are to be used.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
MR COOL
A New Voice

posted December 04, 1999 04:24 AM

Can someone please tell me that how much or how big a TNT should I make to like, blow up a car. And how big a detonator would I need to blow up that shit, and how to make that specific detonator.

---------------------

nbk2000
Frequent Poster

posted December 04, 1999 05:11 AM

You should consider a kilo as the minimum needed to be sure of a satisfactory result. Place it directly below the drivers seat (if that's your target) or the gas tank (if it's the car). Preferably, the explosive is in the form of a shaped charge to direct the explosion into the target more efficiently than just a simple blast.

To detonate the TNT, any decent detonator will work. Obviously the more powerful the better. Instructions to make detonators and homemade explosives can be found on my site.

---------------------

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
Author: wave
Frequent Poster

Topic: i forgot

posted December 03, 1999 12:06 AM

Can you use 3% or proxide to make AP

Or do you got to use 6% or higher

Because I can not find 6% or higher proxide anywhere

It some one can get me some more clues please help me out.

IP: Logged

Author: darcy
Frequent Poster

posted December 03, 1999 12:57 AM

You can use 3% but you have to use twice as much because its only half strength.

Eg if you need 3 tablespoons of 6% peroxide you would use 6 tablespoons of 3%.

IP: Logged

Author: Ho ju
Frequent Poster

posted December 04, 1999 02:12 PM

Here are some ratios to use that onvolve 3% AP:

Acetone Peroxide Creation

- 120ml (.51 cups) of 3% h2o2
- 20 ml (.085 cups) of acetone
- 6ml (0.0255 cups) of hcl

(prediction) 1-2 cm on bottem of the jar that you used will be covored in AP

- or -

- 1 cup (235.30 ml) of 3% h2o2,
- 3/4 (176.40 ml) cup of acetone
- 1/4 (58.80 ml) cup of 32% HCl.

I filled aprox. 4 match boxes with it, about a table spoon or two. I didn't use an ice bath, i just mixed the chems. in a glass jar then
threw it in the fridge for 3 days. I rubbered banned plastic wrap over the jar so that the fumes wouldn't make my food toxic. (the "I" parts are not mine i got this recipe from someone else)

---------------------
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-The beatings will continue until morale improves.

---

Jolly Roger
Frequent Poster

posted December 04, 1999 03:55 PM

i can get hold of 27.5% H2O2 solution, but where can i get HCl and Acetone (in the uk and bearing in mind i'm only 16 😐) cheers for any help on this 😊

---

Ho ju
Frequent Poster

posted December 04, 1999 05:46 PM

I have no answer to that specific question but here in the US you do not need to be a certain age to buy any of the products needed in the making of AP. Acetone has tons of uses outside of making AP and diluted (20-30%) HCl has alot too. so i doubt any one country would restrict there usage. but than agin i am not at all familraized (SP?) with your laws and regulations.

---------------------
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-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.
by the way are the ratios for making the AP above any good?

-------------

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Fuse in Australia - The Explosives and Weapons Forum

**Author**: darcey

**Frequent Poster**

**Topic**: Fuse in Australia

**posted December 05, 1999 12:27 AM**

Does anyone in Australia know where i can get fuse from?? The place that i usally get it from just closed down and i will be fucked if i know where t get anymore. Anyone got ant ideas?

**Fireworkboy@hotmail.com**

unregistered

**posted December 05, 1999 07:57 AM**

Hey Dracey Where abouts in Aust do you live? If you live in Melbourne and your after some of that green Visco stuff I can get you some.

Fireworkboy@hotmail.com

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: info pls.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERROR</strong></td>
<td>posted December 02, 1999 03:42 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>i want to know how to make hydrazine from common chemicals. I heard that hydrazine is used in the most powerful explosive ever produced. I don't know about the correct name of that stuff. And would any body tell me how to make mg powder.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>mosaz</strong></td>
<td>posted December 02, 1999 12:44 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>I think you are talking about Astrolite. But today there are much stronger explosives known then Astrolite. For example HMX or CL20 are even stronger and easier to make because Astrolite is very toxic.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>Kalium</strong></td>
<td>posted December 02, 1999 04:08 PM</td>
</tr>
<tr>
<td>unregistered</td>
<td>Can i make hydrazine out ammonia and sodium hypochlorite? My chemistry book called it Raschig Synthese. Formula: 2NH3 + NaOCL = N2H4 + NaCL + H2O</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td>posted December 02, 1999 04:44 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Here's a process for making Hydrazine Sulfate. Just omit the acid addition to get straight hydrazine hydrate. Or, you can use nitric acid instead of sulphuric to get hydrazine nitrate, which is what Astrolite is. HN is also used in an explosive incendiary gel which I'll be posting on my site soon. &quot;Preparation of Hydrazine sulfate. 2 NH3 + NaOCl + H2SO4 -&gt; N2H4•H2SO4 + NaCl + H2O 141 ml of Chlorox bleach (5.25 percent NaOCl) is added to 200 ml of 20 percent ammonium hydroxide and 5 ml of 1 percent lime water Ca(OH)2 in a one liter Erlenmeyer flask. The mixture is rapidly heated</td>
</tr>
</tbody>
</table>
to boiling and maintained until the volume is reduced to about half, which requires about one-half hour. The solution is rapidly cooled and dilute sulfuric acid was added until a pH of 7-8 has attained and the precipitate that formed was separated by filtration. The cold filtrate was strongly acidified with 40 percent sulfuric acid. The white precipitate was filtered, washed with methanol and air dried. Melting point 254 degrees C (lit. 254 degrees C).

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

---

**HMTD Factory**
Frequent Poster

posted December 04, 1999 04:19 AM  

What is CL20?

---

**Survivor**
Frequent Poster

posted December 04, 1999 04:50 AM  

CL-20 (Hexanitrohexaazaisowurtzitane 😊) is an extremely powerful explosive. VOD: 33,500 ft/sec.

/ Survivor
Survivor@netlimit.com

---

**megalomania**
Administrator

posted December 04, 1999 10:24 AM

Does not the Raschig process require some form of gelantinus substrate in order to complete the reaction? I believe some starch or glue would suffice.

I just happen to have the complete synthesis for CL-20 on my website now, one of the newer explosives I added recently.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

---
Kalium posted December 04, 1999 10:54 AM

Yes mega, thats right. I've forgotten to wright. The other methode from NBK2000 is not easy. And when i mix bleach and ammonia it will form chlorin or?

megalomania posted December 04, 1999 11:07 AM

NBK2000's formula was ammonia and bleach, it will release some chlorine, but it will be hydrazine hydrate. The gelatin will insure that you do not form dangerous byproducts. I am afraid there is no easy way to make hydrazine, only one company in the US, and perhaps the world, makes anhydrous hydrazine.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Jolly Roger posted December 04, 1999 04:44 PM

megalomania - i believe the gelantinus substrate you are looking for is dextrin. This works much better than starch or glue. It prevents large 'crystals' forming which are internally unstable and break down immediately. Read that as explode! 😛

Kalium posted December 04, 1999 05:40 PM

Where can i get Dextrin and how do i mix the chemicals. Ammonia + Dextrin than NaOCL will this work?

megalomania posted December 04, 1999 09:07 PM

Ah, dextrin is the one I was thinking of, but I mention glue and starch simply because I know anybody can get those. Whereas I do not know if dextrin is all that common. Just in case anybody fancies making a bomb from bleach and ammonia, no this reaction will not make you a useful explosive, it is an accidental byproduct that will only cause harm to YOU. Yes, the reaction works fine, conduct in a well ventilated area. It's just hard to purify the result.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania
Hey Mega, where's the CL-20 link on your page? I couldn't find it. Could you please post a link to it here? Thanks.

"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

I use the more accurate chemical name of HNIW instead of CL-20 on the explosives index page. The direct link is http://nettrash.com/users/megalomania/HNIW.html and you can find it with the search engine or click on HNIW from the explosives section.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

Will this synthesis work? And I think the det. vel. of CL-20 is about 9600m/sec.

The synthesis is directly from the patent literature except I rewrote to make it easier to understand (patents are written in some surreal dialect of English for some strange reason). The det velocity also differs on the crystalline form and the density, that det velocity also comes from a literature source. I have yet to write up the synthesis for HBIW which is the direct precursor, itself made from less exotic chems. It will appear in my synthesis section, which I am finally starting later this month 😊 yeah.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

I was just wondering, once you have hydrazine hydrate how can it be made anhydrous? Maybe some variation of vacuum distillations.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Magnesium Sulfate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>Are there any uses (in the way of making explosive devices) for Magnesium sulfate?</td>
</tr>
<tr>
<td></td>
<td>- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!</td>
</tr>
<tr>
<td></td>
<td>- The eagle may soar but the weasle does not get sucked into jet engines.</td>
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<tr>
<td></td>
<td>- The beatings will continue until morale improves.</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td>dlwdaw</td>
<td>melt 1:1 sugar and magnesium sulfate, like you would the KNO3 + sugar.</td>
</tr>
<tr>
<td></td>
<td>pour in a thin layer on a sheet of paper. let cool, and let harden, now crush it up, mix 2:1 with BP, wet some dextrin and mix it with the mix; press very hard into a mold.</td>
</tr>
<tr>
<td></td>
<td>insert a fuse (primed with NC putty).</td>
</tr>
<tr>
<td></td>
<td>makes a great smoke bomb, I tried this a few times, it worked once, then it didn't work (Mg sulfate was too wet)</td>
</tr>
<tr>
<td></td>
<td>it is kind of complicated to make but works good once you get it to wrk, by the way if you dont know where to get Ms sulfate, go to the grocery store and look for epsome salt, that is what Mg sulfate is, also Mg sulfate seems to pull moisture out of the air alot, almost like AN,</td>
</tr>
<tr>
<td></td>
<td>-dlwdaw</td>
</tr>
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</table>
melt 1:1 sugar and magnesium sulfate, 
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pour in a thin layer on a sheet of paper. 
let cool, and let harden, 
now crush it up, 
mix 2:1 with BP, 
wet some dextrin and mix it with the mix; press very hard into 
a mold. 
insert a fuse (primed with NC putty). 
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-------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
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---------------------
-dlwdaaw

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-- Ragnar Benson

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---------------------
-dlwdaaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson
- dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

Ho ju
Frequent Poster

posted November 15, 1999 09:18 PM

yeah i went to the phramacy to get cold packs (to get AN to make the smoke bombs i was talking about on another thread) and saw epsome salt and saw it was MGSO4 so i asked if there were any uses. would just MGSO4 and suger work for the smoke bomb or would you have to mix it with the black powder like you said? does anyone know of any other uses

-------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

IP: Logged

Ho ju
Frequent Poster

posted November 15, 1999 09:37 PM

when you mix KNO3 and suger to make the smoke bomb, do you add a bit of water to the mix before you start to mealt it? and if it starts to smell (really badly) of burnt sugar, amd i doing something wrong?

-------------------

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<table>
<thead>
<tr>
<th>Username</th>
<th>Message</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlwdaw</td>
<td>you don't have to use the BP, just melt it and pour it, then stick a highly primed fuse in before it hardens, the bp just adds some smoke and helps ignitions a little. I have used it without BP and it makes an OK smoke bomb. -dlwdaw</td>
<td>November 15, 1999 10:49 PM</td>
</tr>
<tr>
<td>poison</td>
<td>Just add a little water to the kno3/sugur just make sure all the water has evaporated before you put it in a mold. -Poison</td>
<td>November 15, 1999 11:51 PM</td>
</tr>
<tr>
<td>Al Koholic</td>
<td>Hey Ho Ju. I wouldn't even worry about that stuff. Just make a regular AN or KNO3 Smoke bomb (easier and the same effect and from what dlwdaw said...more reliable). The regular ones work great if done correctly (remember that one? They get even better if done right). Umm...oh and when you are heating that crap...do NOT do it inside. You will be fried. Do it outside over a low low flame...when it starts to smell shitty all the next step is for it to go up so dont do it inside. It will also start to look charred a little before usually near the edges where it lights. Be very careful melting it. I suspect that melting it wont really benefit you. Since you want smoke you arent going to want the greatest intimacy (which would result in greater burn rate and burn completion) so Id bet that if you just added the ingredients and pressed it with binder then it would probably work jsut fine if amply primed. I wouldnt even f*ck around with melting the shit. All you want is for it to burn but you dont want any flame because that eats up some of the smoke. AK</td>
<td>November 16, 1999 02:41 AM</td>
</tr>
</tbody>
</table>
If you don't want to get screwed while melting compositions, do it the right way. It is important to use an oil bath, NEVER use an open flame. When you use an oil bath you can ensure that the temperature is evenly distributed hence, no *hot spots* where it is most likely to ignite from. Just keep the temperature low enough to melt the ingredients together. When you use a flame it will warm up areas which can be warmed up easier then other places (side, corners as opposed to the middle), making hot spots which are ready to ignite the whole thing.

That is true. If you really want to melt it do it in an oil bath. I've had the shit go off pre-mature while melting it a few times...that's not good. Personally though, I don't even think you would have to melt it together since the magnesium sulfate won't even melt at all. It will just be mixed in anyway. It is possible to do it over a flame as long as you stir constantly and completely. But for your application you shouldn't even have to melt it at all.

how much smoke do you think the MGSO4+suger would produce if just pressed together or bound with a binder? yeah Al koholic i remember the can filled with the melted kno3+suger that was fucking amazing!!!! if that thing went off in a room it probly would have filled a good sized gym full with thick black smoke! what a thing to set off during a basketball game. and it was damn hot too!!!! 

-------------------
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-The beatings will continue until morale improves.
The mg sulfate and sugar dosn't work period. I had told you that on ICQ mg sulfate is NOT a oxidizer there for it will do nothing to the sugur. The only reason why I think dlwdaws worked because he used BP and NC with it and I think the kno3 in the BP also oxides the sugur in the mgsulfate/sugar so it looks like its ging off but the mg sulfate only gets charred. We had a whole discussion on this on the old forum.

-Poison

Not trying to be a smart arse expert here, but for max kno3+sugar efficiency, always put sugar+water. Melt this mixture over LOW flame then add the kno3[Potassium Nitrate]. In case some out there don't know, Potassium nitrate gets spoiled when exposed to water therefore keep it away from water [except in the case of making a smoke bomb]. Why do it like this? Because the kno3 does not become shity and wet.

TIP for you first timers- USE very little water eg- 1-2 teaspoons for every 1 1/2 cups of sugar. You dont want the mixture to become watery otherwise drying the bastard will be a tedious task and dull grey smoke will be achieved. The burn rate of moister smoke bombs is aslo less. Good ones spit out huge clouds of white smoke. If it to wet you can tell by a dull grey smoke coming out at a slow rate.

Put it this way. Me and a mate smoked a whole paddock with one of these things. It burned for about 45 seconds but it let off the most smoke ive seen. The shit was so thick, clouds of smoke were getting caught in the trees. It was great.

True, MgSO4 is not an oxidizer (unless used under very specific high temp conditions). I was taking this as if dlwdaw had mixed the mgs04 in with the kno3 and sugar mix. Sorry. No, mgso4 + sugar will not do anything special.
<table>
<thead>
<tr>
<th>Username</th>
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<th>Message</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho ju</td>
<td>posted November 17, 1999 04:19 PM</td>
<td>besides smoke bombs is there any thing else i could do with it. like use it to make other chems through things like electrolysis. could i use it as the electrolyte in my cell to make anything?</td>
<td>IP: Logged</td>
</tr>
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<tr>
<td>Al Koholic</td>
<td>posted November 17, 1999 05:42 PM</td>
<td>Not really. Its pretty useless.</td>
<td>IP: Logged</td>
</tr>
<tr>
<td>Dr-D</td>
<td>posted November 17, 1999 07:02 PM</td>
<td>I belive you can electorlize it, as I think that mega was talking about doing that to get the magnesium... search the board..</td>
<td>IP: Logged</td>
</tr>
<tr>
<td>megalomania</td>
<td>posted November 19, 1999 03:32 AM</td>
<td>Mmm hmm. Epsom salts to be used as OTC source of magnesium metal since magnesium metal is now watched by gov't because it is used to make drugs. Magnesium sulphate is electrolyzed in solution to magnesium hydroxide, mixed with HCl to make magnesium chloride, that is then melted and electrolyzed to make magnesium metal. magnesium metal is used in Grignard reaction which can make just about any alcohol OR used to turn mothballs (p-dichlorobenzene brand) into benzene. All chems here are OTC, thats why its useful.</td>
<td>IP: Logged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visit Megalomania's Explosives and Stuff at <a href="http://surf.to/megalomania">http://surf.to/megalomania</a></td>
<td></td>
</tr>
<tr>
<td>Enigma</td>
<td>posted November 19, 1999 06:05 PM</td>
<td>Could you give me an overview of the grignard process.</td>
<td>IP: Logged</td>
</tr>
<tr>
<td>User</td>
<td>Date</td>
<td>Time</td>
<td>Message</td>
</tr>
<tr>
<td>--------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Ho ju</strong></td>
<td>posted December 05, 1999 05:35 PM</td>
<td></td>
<td>yeah mega do you think you can outline the grgnard process for us?</td>
</tr>
<tr>
<td><strong>megalomania</strong></td>
<td>posted December 05, 1999 10:54 PM</td>
<td></td>
<td>The Grignard Reaction is typically used to make alcohols. Basiclally it inserts magnesium in between a halogen-carbon bond, typically bromine, chlorine takes a bit longer, and with great difficulty with iodine, never with fluorine (I may have iodine and fluorine reversed, I can't remember). The reaction is carried out in absolute dryness, no water of any kind can be present or the reaction will not start. The halogenated compound is dissolved in absolutely anhydrous ether (yes, some water can get in ether) and magnesium turnings are added. The reaction may sometimes not want to start, crushing up the magnesium or gentle heating can start it. The reaction can generate a lot of heat which can pose a problem with ether, a cooling bath is kept handy to regulate the temp, this is usually not a problem on a small scale. The reaction procedes spontaneously once it gets going. The &quot;Grignard Reagent&quot; that forms is usually reacted immediately by adding another compound that converts it to the corresponding alcohol, it does not store well. Adding water will replace the magnesium-halogen with hydrogen.</td>
</tr>
<tr>
<td><strong>Ho ju</strong></td>
<td>posted December 06, 1999 03:50 PM</td>
<td></td>
<td>TY mega 😊</td>
</tr>
</tbody>
</table>

---

Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: potassium dichromate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jolly Roger</strong></td>
<td>posted December 02, 1999 06:52 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>has anyone tried making flash powder with potassium dichromate and aluminium? I tried it today and it wouldn't ignite.</td>
</tr>
<tr>
<td><strong>HMTD Factory</strong></td>
<td>posted December 04, 1999 04:14 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Nobody uses dichromate salts to make flash powders, they use nitrates, chlorates, and perchlorates. Dichromates are only good at making people get cancer.</td>
</tr>
<tr>
<td><strong>Jolly Roger</strong></td>
<td>posted December 04, 1999 03:47 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>cheers! I needed to know that like a kick in the balls 😊 Oh well back to making potassium chlorate with a battery charger.... 😊</td>
</tr>
<tr>
<td><strong>Jolly Roger</strong></td>
<td>posted December 04, 1999 03:50 PM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>But CAN I use it as an oxidizer? I read somewhere that I could. I found an enormous jar of it in the garage 😊, so it is kind of easier to get hold of than nitrates, chlorates etc.</td>
</tr>
</tbody>
</table>
It is an oxidizer used in pyrotechnics, it gives oxygen when heated, but produces less than chlorates or nitrates as to the same weight, less effective oxidizer.

What kind of aluminum do you use? Aluminum filings are never gonna work, it has to be fine, fine, fine powder.

I use fine aluminum filings, which take ages to make, and are a real pain in the arse. They work fine with potassium permanganate. Although it could be the fact that it was quite a damp day and when I tried it with KMnO4 it was dry and hot. Ah well shitty britain… 😞 Where could I get hold of very fine powdered Al?

KMnO4 is potassium permanganate, I think potassium chromate could possibly be used in flash powder.
I hate filing aluminum, took me hours to get a few grams. A good way is to get a dremel tool, and attach a file attachment, and let it run, I got 3x the amount in 20 minutes than I did with hand filing. And just as fine, right now I am working on making Al powder from Al foil and a coffee grinder, it takes forever, the powder also leaks out of the side 😞

----------------------
-dlwdaw

"… always look on the positive side of things, blow things up not down"

-- Ragnar Benson
Ho ju
Frequent Poster

posted December 04, 1999 10:41 PM

the dremel tool sounds like a good idea. what is a good source or aluminum though? are the baseball bats that say they are made out of it, actually 100% aluminum?

------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

IP: Logged

Predator
Frequent Poster

posted December 04, 1999 11:11 PM

DlwDaw your going to end up poisioning your family using that coffee grinder....

IP: Logged

dlwdaw
Frequent Poster

posted December 04, 1999 11:30 PM

I dont use it for coffee or spices, before I used it on any "chemicals" I used it to grind up some clove(mild psychedelic), then I cleaned it out real good, then grinded some NaNO3, cleaned it well, then some sugar, for an NaNO3 smoke mix, then I cleaned it again, then used it on ammonium nitrate, cleaned it, the on Al, and thats what i'am going to use it oin from now on, and by the way, how can I poison someone by grinding Al in it?

------------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

IP: Logged

Ve He MT
Frequent Poster

posted December 05, 1999 12:15 AM

Or you could just buy the stuff from a pyro supplier byt the pound (pyrotek, skylighter). I'm pretty sure Skylighter will send to Europe, not sure about Pyrotek, but that can be found with a simple e-mail.

IP: Logged

HMTD Factory
Frequent Poster

posted December 05, 1999 03:19 AM

Try aluminum bronzing powder at paint store.

For the resource of metal, try abandoned sporting bicycles, they are Al-Mg alloy.

IP: Logged
<table>
<thead>
<tr>
<th><strong>Predator</strong> Frequent Poster</th>
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</thead>
<tbody>
<tr>
<td>posted December 05, 1999 08:03 AM</td>
</tr>
<tr>
<td>Al pit's in water. If your family were to use that grinder to grind something containing a liquid, whatever pieces of Al you missed is going to pit and contaminate whatever is in the blenders container. You will not find drinking water pipes made out of aluminium for this reason. If you don't believe me this is toxic, leave a Al ball in the pishtank and see if the fish don't die in the next few days.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dr-D</strong> Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>posted December 05, 1999 02:09 PM</td>
</tr>
<tr>
<td>Getting aluminum into your body has been linked to Altimerz disease. Be careful you don't breathe in the Al powder, and wash your hands after handling it.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ve He MT</strong> Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>posted December 05, 1999 02:25 PM</td>
</tr>
<tr>
<td>I am quite certain (told me) that dlwdaw bought a separate coffee grinder from a second hand shop or something like that, just for grinding things up.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>dlwdaw</strong> Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>posted December 05, 1999 03:13 PM</td>
</tr>
<tr>
<td>I can't remember but I think it was a hotplate, it was a little drink warmer I got for $1.50 at the thrift shop. next time I get on ICQ, I will check my message archives</td>
</tr>
</tbody>
</table>

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson |

<table>
<thead>
<tr>
<th><strong>Ve He MT</strong> Frequent Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>posted December 06, 1999 01:37 PM</td>
</tr>
<tr>
<td>Oh right, it could have been the hotplate too.</td>
</tr>
</tbody>
</table>
Oh well looks like im going to be gitting Altimers desease becuase i got a couple good wifs of al power before that i couldn't help oh well ;/ .
-Poison

Powdered aluminum is available to gunsmiths to mix with epoxies to bed guns with. Try suppliers to gunsmiths. Their grade is a pyro grade that is dense.

Its also used in fine flake form to put in paints. Try paint stores that sell aluminum flake paint that is unmixed, and try boat places for the aluminum flake is used in polyester resin to paint aluminum colored fiberglass boats. It comes in quart cans that only contain a few ounces of aluminum although the can if full of flaked aluminum. Its very fluffy and light stuff. A quart of the pyro powder aluminum would weigh several pounds. However for explosives that burn, fluffy mixes lead to faster burning, and more bang for the buck.

Also don't forget Zinc powder, which works in many situations as well as aluminum. It is sold as a powder in cans to be added to paint to make zinc rich paints to stop rusting etc. Try industrial paint companies. It costs about 45 dollars for two cans that mixed make a gallon of zinc rich paint. The can with powder has about 15 pounds of zinc powder in it.
I was reading a book on welding and came across "copper acetate (SP?) is an extremely sensitive jell that forms in the bottom of copper pipes exposed to acetylene. It is sensitive to friction and shock, so NEVER use copper pipes for oxyacetylene welding setups." Anyone have any idea how to synthesize the stuff or any information on it? An explosive that could be made from pennies and acetylene would be useful, to say the least = )

Copper acetate isn't explosive, there's whole bunch sitting in my kitchen. Pour penny and vinegar together and wait for long time. It gives beautiful green light when flame pass through it, then decompose into copper and acetic acid, which might decompose into water and CO2 if temp is high.

Maybe your book says "Cuprous Acetylide", Cu2C2, that's really explosive. Can acetylene and copper directly synthesis into cuprous acetylide? I don't know.
Copper sulphate is available at hardware stores as tree root killer, cresote remover for chimneys, and also sold in bulk as "bluestone". Dissolved in water, you could probably add calcium carbide directly to the water. The carbide reacts with the water to form acetylene in the water, which reacts with the copper salt to form copper acetylde. The calcium reacts with the sulphate to form insoluble calcium sulphate.

But if the copper acetylde is also insoluble, then you would need to bubble the actylene in seperatly.

--------------
"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Well my tree root killer I git is kno3. Ive never seen copper sulfate in the stuff. matter of fact I have a bottle in the next room its very high % of kno3 to.
-Poison
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: black stuff</th>
</tr>
</thead>
<tbody>
<tr>
<td>wave</td>
<td>posted December 07, 1999 06:23 PM</td>
</tr>
<tr>
<td>Ve He MT</td>
<td>posted December 07, 1999 06:43 PM</td>
</tr>
</tbody>
</table>

**wave**  
Frequent Poster

when some one is making sodium chlorate out of carbon rods and is all done with the process with the battery charger they get a grip load of black stuff at the bottom  

now that is the stuff you keep when you filter it throw a filter and then winsh the black stuff with boil hot water then you get the chlorate right  

or do i got all this backwards  
also you dont got to use HLI or any other chemical besides salt when you are making it right

If you searched the forum youd find an incredibly large amount of information on this. The black material is carbon from your carbon rods (noticed how they are corroded?). The chlorate will remain in solution or form white/clear crystals. Just when your done (search the forum or the web to find out how long to run your cell) warm up the solution until all of the crystals dissolve, the carbon residue will not dissolve. Filter the carbon and then you have chlorate in solution, again search the forum for information on how to extract the chlorate.
thank you

but i have tried to search the web but i cant really find anything
i mean i can but they give me the runaround

like one web site told me to keep the black stuff and some tell me not to
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: smoke</th>
</tr>
</thead>
</table>
| **Fjp92**  
Frequent Poster | | posted December 03, 1999 08:23 AM |
| | I saw something cool the other day at work.  
I work at a place were we make candles.  
One of my friends took some of the wax dye and placed it on to his stil  
burning siggaret bud. the blue dye made blue smoke.  
I sure it would be nice to experiment with although the dye is verry  
expensive.  
Maybe one can make coulor full smoke bombs |
| **Dr-D**  
Frequent Poster | | posted December 03, 1999 03:14 PM |
| | Speaking of smoke... what is used in those Fog generator machines?  
would be cool to mass produce some foggy smoke and wear my  
gasmask and full amry outfit and freak out the neighbors 😎Take off the  
mask and have some alcaseltzer in your mouth fall down and twitch  
foaming at the mouth 😎  
Or next time those pesky salesmen come to your door, open the door  
with the gas mask and they see all this fog roll out of your house and  
freak out and run away 😎 |
| **mosaz**  
Frequent Poster | | posted December 03, 1999 03:50 PM |
| | Correct if I'm wrong but i think it is just dry ice and water. |
you are wrong, 
thats what used in like the witches pot, because it needs to be small, 
but this is usually something like glycerin, and it gets vaporized, I think, 
I read something about it on rec.pyro.....

-------------
-dlwda

"... always look on the positive side of things, blow things up not down"
-- Ragnar Benson

Propylene glycol, water, and glycerine.

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

Is that it? just mix and blow the shit with a fan? I thought that produced 
toxic smoke.... Or is this nontoxic? all 3 chems are easy to get...

It appears that fogmachines heat up glycerine or glycol till it vaporizes... 
heating it up too much can make formaldalhyde form..

But I read in some anarchy crap book that mixing antifreeze (glycol) 
with glycerin causes toxic smoke.... But fog machines dont mix these 
chems, they use one or the other in water...

hmm does anyone have any more info?

I'll find the formulation and post it later tonight. Diethylene glycol 
(antifreeze) is toxic, but propylene glycol is used in foods and cosmetics, 
so it's safe.

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
I once took a little sip of glycerin, pretty sweet!]

Most color smokes are done by using low heat in pyrotechnic to vaporize color dyes, except black smoke and white smoke.

to have white smoke, easy way is to pour some hcl in a shallow dish and ammonia in another dish, place them close together.
Or mix sulfur and KClO3 2:1 by weight then add 40% of NH4CL.

to have black smoke, easy way is to mix naphthalene and KClO3 1:3 by weight.

I looked, but couldn't find anything that gave a formula. Plenty of fog machine patents but no formulas. I've seen the formulas in F/X books and it's mainly propylene glycol and water with a small amount of glycerine. This mix is then rapidly heated to about 150C (I'm guessing here) for like 1/10 of a second before being ejected into the air where it instantly cools and forms fog.

"The knowledge that they fear is a weapon to be used against them."


You can use glycerine and water alone and it should work just fine.

This site I found that is pretty cool:

Imagine building one of those and using those things that you put in the car to boost the voltage to household level, and add that to a 12volt batery, and you could have a portable fog machine to freak people out. The battery probably wouldn't last long since there is no car running to put electricity back into it. But the fog with some ppl wearing gasmasks would be sure to freak some people out in a public place hehe
This is our home-made fog machine. It uses the same regular fog juice used in store-bought fog machines. You can buy the juice from Terror by Design, Spencers, or party/theatrical supply stores (check your yellow pages). You can also make your own juice. It's less expensive, but there may be legal issues if the general public is going to breathe your fog. According to the Halloween-L archives: "For fog juice, mix 15% to 35% glycerin to distilled water. Experiment, the less glycerin you use the cheaper and cleaner your fog will be but it will also be lighter and not last as long." You don't have to use distilled water with my fog machine design because there's no heat exchanger to get clogged. You can get glycerin at your pharmacy.

A pump (bought at the local surplus store for $5) squirts the juice onto an inverted, disassembled iron (bought at a garage sale for $1). The iron is on all the time. It's held above the juice by long bolts from the bottom of the box. The wooden box is sealed and waterproofed inside with a kind of paint called C.R.A.E. (Corrosion-Resistant Acrylic Enamel.) Any thick, waterproof paint will work. If you build something like this, be certain to keep enough space between the wood and the iron, you don't want to start a fire! Any device like this should be thoroughly tested before being used unattended. Heat it up without juice in it to be sure it won't burst into flames when it runs out of juice.

The juice is pumped into a metal tube 4 inches above the iron with several pin-holes in it to distribute the juice over the hot surface. The heat vaporizes the juice into fog. Fans (salvaged from an old computer) on both ends of the box blow the fog out the front of the machine. Unvaporized juice runs back down into the reservoir. The intake for the pump is a metal tube glued to the side of the box with water-proof epoxy. It's bent 90 degrees at the bottom and the end is covered with a screen to keep little bits of junk out of the pump. The pump is mounted on the back of the box so it will be cooled by the flow of air. The fan and pump run on 12v, the iron plugs in of course. A 15 foot control wire allows the operator to turn the fans on and off and the squirt the juice.
a burst of fog on cue, you can just rig up a drip bottle to deliver the fog juice. Just be sure the fan blows out of the box rather than in so the pressure doesn't stop the dripping. Also, before you try to build a fog juice fogger, remember that an ultrasonic humidifier is much easier for smaller fog effects, and it uses regular water. They can be bought for less than $20 at garage sales and thrift stores.

Here's a page describing a similar fog machine inspired by mine. It uses metal bread pans rather than a wooden box.

Update: The fog juice wasn't contaminated with water from the humid air on Halloween night '97. It turns out that the electrical contacts on the iron's thermostat had gotten corroded. There's no problem with having an open reservoir.

I've heard that overheating fog fluid can cause it to oxidize and produce toxic chemicals such as formaldehyde. I don't see how my fog machine design can overheat fog fluid because the fluid evaporates as soon as it reaches its boiling point. I would think the fluid would have to be pressurized in order to overheat it. Nevertheless, if you build a fog machine and the fog smells unpleasant or burns your nose, you shouldn't use it in such a way that anyone will breathe the fog. The fog should only have a somewhat sweet odor. Turning down the thermostat on the iron might solve the problem.
### Glycerol, Hydrazine...

<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Glycerol, Hydrazine...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MR COOL</strong></td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td>posted December 08, 1999 04:24 AM</td>
</tr>
</tbody>
</table>
|                 | Can anyone please tell me whether Glycerol and glycerine is one of the same things(Cause I need it for Astrolite) ?
|                 | I also want to know if I can use anything else instead of anhydrous Hydrazine. If not, then How can I make it by myself. |
|                 | -------------------------- |
| **Phobos**      |                               |
| A New Voice     | posted December 08, 1999 08:10 AM | ![2](https://example.com) ![3](https://example.com) |
|                 | Yes, glycerin and glycerol is the same.
|                 | No, you cant use anything else than hydrazin and you cant make it yourself |
|                 | IP: Logged | ![1](https://example.com) |
| **Ho ju**       |                               |
| Frequent Poster | posted December 08, 1999 04:14 PM | ![2](https://example.com) ![3](https://example.com) |
|                 | yeah you can the process was discussed on another thread. (i think) |
|                 | -------------------------- |
| **Jolly Roger** |                               |
| Frequent Poster | posted December 08, 1999 04:25 PM | ![2](https://example.com) ![3](https://example.com) |
|                 | the process for making hydrazine was discussed in another thread, and it should work since i have seen it in a document before. |
|                 | IP: Logged | ![1](https://example.com) |
I want to dissolve some AP and then evaporate the solvent to get big lumps which I suppose are more stable than the crystals. I tried to dissolve AP in various liquids like acetone, ethanol, petroleum spirit, glycerol..., but it seems to be totally insoluble or only soluble in small amounts. so would I need to melt AP on a waterbath to get it in lumps, which seems quite dangerous to me? And is it the same for HMTD, which I have not made so far?

TNX,
PhoBoS

Ve He MT  
Frequent Poster

The problem is that the AP and HMTD will decompose when exposed to the heat necessary to melt it, therefore making melting an impossibility. What you can do is make a "putty" a la Nipolit which when dry will as solid as a rock, and can be formed into any shape you desire. A good ratio would be 60% AP 40% Nitrocellulose. Dissolve the NC in some acetone, and then add the AP into the dissolved NC. When the acetone fully evaporates you will have a rock hard (dont test to see how hard it is....) piece of AP. The use of double base NC will increase its power. Just like AP it will react the same to flame as it did before.

Dr-D  
Frequent Poster

Is there any other binder that is suitable for AP and the like? NC is hard to come by and $$$$$ when you do have the connections.

Something that is a strong adhesive but yet burns a little would work?
You can use vaseline+solid lecithin stuff.

Estimate the amount of "binder" you want, then take 80% of vaseline, 20% of lecithin, visual measurement is ok, dissolve them in lighter fluid or other petroluem distillates, pour the mixture into the explosive powder you have, devide your explosives into several jobs and feed the solution with a spoon, you don't wanna pour "A LOT" of gas onto "A LOT" of sensitive explosives. Stir well and serve...I mean let dry.

You can find "solid" lecithin in healthy food store, body build-up food store, pharmacy, if the place sells vitamins then they probably will have lecithin.

I use to add lecithin into the Vaseline/KClO3 system, make them so putty, can thread them into noodles without breaking it.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: vacuum bombs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phobos</strong></td>
<td>posted December 07, 1999 06:16 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I somewhere read about so-called &quot;vacuum bombs&quot;, which should be very destructive and powerful, but I couldn't find out anything about then usig google and lycos. does anyone know, how they exactly work, how they are made and so on?</td>
</tr>
<tr>
<td></td>
<td>TNX, PhoBoS</td>
</tr>
</tbody>
</table>

| **darcey** | posted December 07, 1999 07:41 PM |
| Frequent Poster |                     |
|             | are you talking about the explosives they use to take down building?? If so all you would have to do is place a large high explosive charge in the centre of one of the bottom rooms of the building you want to fuck up. Around this charge you would place sacks of fuel eg petrol, flour. When the bomb detonates the sacks of fuel rupture and the fuel would go into the air. The charge would then ignite this fuel creating a huge fireball which burns all of the air in the room. Because all the air has been used up by the burning fuel a vacuum is created. This in turn will want to suck air from the outside of the building which cracks all the cement and shit and then falls down. I have only done this on a small shed and i went over the top with the fuel and explosive and completly fucked it up but it worked. |

| **Ho ju**  | posted December 07, 1999 09:48 PM |
| Frequent Poster |                     |
|             | i do not think they take down buildings that. maybe if it is one lone building but now a days when they take down a building they can't be that "haphazard" about things. |

------------------------

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
Don't know anything about vacuum bombs.

But in a mass explosion or nuclear explosion, which affect a large area, buildings are vulnerable to pressure changes from both first wave and the second wave coming back to the blast center. It was used to stop leaking oil well from burning too, using the oxygen exhaustion theory Darcey said.

Ho Ju
Frequent Poster

posted December 08, 1999 04:13 PM

they used sticks of dynamite to put out the oil fires in kuwate after saddam set them when he was retreating

-----------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

Jolly Roger
Frequent Poster

posted December 08, 1999 05:19 PM

isn't that how fuel/air bombs work? They superheat petrol (or another volatile fuel), and then ignite which causes a huge fireball which then sucks everything in to the center of the blast at very high speed. This is due to a vacuum, and are v. destructive. That film about the monkeys, and the ebola virus has one at the start dropped from a plane, and they all think its supplies, and then bam! their all toast.

Contact Us | The Forum
### Remote Detonation

#### Posted November 16, 1999 10:10 PM

**Ho ju**  
Frequent Poster

Does anyone have any ideas on ways you can detonate blasting caps from afar? Like with an electronic switch or what not. Even though it is not electronic i had one thought on how to detonate a matchbox full of AP from about 30 yards.

Say you set up a match box full of AP next to a tree. You stand 30 yards back and shoot a pellet at it (the pellet is traveling at 1000 fps) would the force of a .177 cal pellet traveling that fast be enough to detonate the box full of AP?

---------------------

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

- The eagle may soar but the weasel does not get sucked into jet engines.

- The beatings will continue until morale improves.

---

**Darcey**  
Frequent Poster

It would all depend on how much you wanted to pay for your remote device. A very good and reliable remote device (i have used this my self) it to get a pager and remove the back. Stuff around until you find the pager's pizeo or speaker, the thing that goes beep beep. You would then strip the wires from the speaker and attach your detonator. Depending on what voltage the pager was and what voltage the detanator needed, you would most likely need to increase the voltage to say 6 to 12 volts. This can be simply done by attaching some resistors to the power inlets and then just attaching a high voltage battery.

The way in which this works it:
1. you place your bomb where ever you what to put and get away.

2. Go to the nearest phone and dial the pagers number.

This in turn will send a electronic siginal (or current) to the speaker to make it beep and tell the owner that he/she has a call. But the speaker...
has been replaced with a det cap and when the current goes to the cap....boom.

This principal can be applied to may different devices, eg mobil phone, clock with an alarm speaker...ect

---

**Feticidal Fantasy**
Frequent Poster

posted November 17, 1999 02:09 AM

All you need is some electric ignitors (model rocket ignitors, christmas tree lights, flash bulbs, etc.), a length of wire and a 9v battery. I use this for all my bombs. I use 150ft of speaker wire and just touch the ends to the poles on the 9v battery.

------------------
Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."

---

**darcey**
Frequent Poster

posted November 17, 1999 04:05 AM

Sorry Ho Ju, I read your question in the wrong way. The wire + battery is a sure way of letting off your bombs.

---

**Blaze**
Frequent Poster

posted November 17, 1999 09:27 AM

I don't know about a slug gun but a .22 (40gr bullet - 1200fps) definately dets a matchbox of AP putty .. id expect the putty would be more sensitive to this than plain AP..

infact i blew a 20cm stump to smitherines doing just that..

---

**Ho Ju**
Frequent Poster

posted November 17, 1999 04:16 PM

I am assuming that a .177 cal pellet going 1000 fps would be enough to detonate a match box full of AP i am going to have to try it when i get my rifle. As for the remote detoantion i was talking about detonating things from like miles away (i already use a length of wire, a model rocket engine ignitor and a battery) so the pager thing would worpk great. thanks alot. (that would suck if someone paged you when you were setting it up!)

------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasle does not get sucked into jet engines.

-The beatings will continue until morale improves.

---
Ve He MT  
Frequent Poster

posted November 17, 1999 05:58 PM

Thats why A) you have a switch to arm to bomb and B) you dont give out the number!

Hehehe, why would you give out the number if it was just for a bomb hehe

IP: Logged

nbk2000  
Frequent Poster

posted November 17, 1999 10:45 PM

You could give out the number after you set it up. Call a bookstore and ask them to special order a book for you and give them the pager number. Then, when they call it, they set it off. This way, if you take a lie detector, you will be quite honest when you say you don't know when the bomb went off.

Think of the bookstore as a random time delay fuse.

This would only be good for setting off bombs against stationary targets. If your looking to kill someone then you'll still have to call it in yourself.

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000

IP: Logged

Ironman  
A New Voice

posted November 23, 1999 09:48 AM

you could make a pressure plate with a single AA battery, copper wire leads, and Nichrome wire that is at least half of the diameter of the copper wire. set up a simple switch. close the circuit.

IP: Logged

Ironman  
A New Voice

posted November 23, 1999 12:10 PM

Not to mention a book by Lawrence W. Myers titled "Improvised Radio Detonation Teqniques" from www.deltapress.com

IP: Logged

Jolly Roger  
Frequent Poster

posted November 30, 1999 05:42 PM

You can by dedicated systems for home built alarm systems which use a device similar to the one on your car keys for the car alarm. I think they are 415Mhz or something like that. They have a range of upto (and over if you put on a big aerial!) a mile. Rocket detonators suck, they really are naff (flame!) a 5 watt zener diode hooked up to a model car race pack works miles better! Contact me 4 more details on these!!!

IP: Logged
Fire Knight
unregistered

posted December 04, 1999 01:07 AM

A remote detonator is very simple if you happen to own a radio control car. If you don't have one, you can buy a real cheap one that will get the job done. First, take the car apart and find the wires that go to the engine. Cut these off and remove the rest of the receiver assembly. This assembly will be a chip with lead wires to the power supply. After removal, simply wire a rocket igniter to the wires that formerly provided the electricity to the engine, place power supply onto the correct leads and activate the power. After this you bring the radio control to a safe location, and move the switch as you would normally to make the car go forward. Obviously, this detonates the explosive.

Ho ju
Frequent Poster

posted December 04, 1999 02:14 PM

yeah but if you get a cheap remote control car the range is not all that good. I think the beeper one is the best. You could set up the bomb and wire it with the beeper and then detonate it clear across the state. But beepers tend to be expensive (you could steal one though) and you can get a cheap remote control car for under 30 bucks. So I guess it is just up to preference.

--------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

-The eagle may soar but the weasel does not get sucked into jet engines.

-The beatings will continue until morale improves.

Predator
Frequent Poster

posted December 04, 1999 04:07 PM

Yes, radio controlled car systems are not a very good idea in it's unmodified state.

The range is very paltry, approximately 15 metres, if not, a little less.

But, as I have found out through experimentation, wiring up the transmitter to a much larger aerial / antenna yields a much broader range of coverage for the radio signals emitted, and hence a longer remote detonation distance.

Also, the standard radio controlled cars available in a local toy shop will NOT do.
And I emphasise the NOT.
This is because these bog standard systems are very prone to interference off a wide variety of things, including buildings, overhead power lines, generator stations, passing cars etc.

Have you ever switched on a radio controlled car, and just left it upside down on a wall?
If you did, you would notice that the wheels and other parts 'twitch' and move at random due to interference from everyday things. (the remote is off by the way).

This is because the standard systems routinely use the 27mhz band, which is low key and susceptible to interference.

A better idea would be to get a dedicated radio control unit out of a model/hobby shop. These have interchangeable crystals, which work on different, and safer/less interfered with frequencies. Also the receiver units can be bought over and over again, and they are relatively cheap.

<table>
<thead>
<tr>
<th>Predator</th>
<th>posted December 04, 1999 04:13 PM</th>
</tr>
</thead>
</table>
| Also, I would like to mention (before some of ye get killed using this method) that interference is not uniform over the country/state that you live/use this idea in. Always test the radio systems susceptibility to interference in the area you intend to use it in. (ground zero)

The place you made the detonator, say, at home, will not have the same interference level as the place you intend to plant/use it in. |

<table>
<thead>
<tr>
<th>Blaze</th>
<th>posted December 04, 1999 11:01 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>For people familiar with CB radios, there's a feature on the new ones called &quot;selcall&quot; (selective calling) which lets you actually ring up individual radios..with this you could detonate one from 20kms, maybe.. how many watts do RC car transmitters work on?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ve He MT</th>
<th>posted December 05, 1999 12:28 AM</th>
</tr>
</thead>
</table>
| I don't think that their transmitter power even gets into the watt's range. Could be different with a REAL RC transmitter/receiver (the ones at the hobby shop, not from the toy car from the department store), but even then they are only good for a couple hundred feet. With pagers, mobile phones, toy cars and especially with the clocks with alarms, you'll most likely need to hook up a relay.

I'm looking at a flyer here right now and some store is selling pagers for 7.95. The service is nearly the same price as the pager itself! Its quite a cheap piece of crap tho, hehehe |
Ho ju
Frequent Poster

yeah but the good thing is it does not matter how crappy the pager is. it is going to be used only one time anyway. i still think the pager is a good idea. get a cheap one with the service and you pay 20 bucks for a remote detonator that you can use from clear across the state 😊 i like thoughts odds. you are not even close to the detonation. sya you set the bomb one day and a week later when you set it off. noone would even suspect you. hell you could even wait a month 😁

------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

Jolly Roger
Frequent Poster

Model aeroplane (35, 40, and 72 MHz) RC gear is about 800mW up to 5 Watts depending on how much you spend. Toy car RC will be up to 800mW most are about 150mW.

Hope this helped

Ve He MT
Frequent Poster

Ho ju, thats why I mentioned the cheap assed pager, because it wouldn't matter how cheap it was (so long it worked reliably) since it would be blown to bits.

Ho ju
Frequent Poster

exactly or you could just swipe one from a friend 😊 or anyone. just as long as you have the number for it. are there pager services that can work clear accross the country? (say you buy a pager and get the service in NY, are there any services that will work if you traveled to Cali and tried to use the pager there?)

------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
c'mon people! The absolute easiest thing in the world to do for remote detonation is to build a receiver/ transmitter pair. They are simple to build and cheap; 2 sets can be used and one can be used as backup to the other. You can build a simple receiver that fits in a watch (including battery) and a transmitter that will detonate it over extremely long ranges. Look for the plans on the net if you're interested, I'm not going to draw them up.

IP: Logged

I forgot to mention that you'll need to set both to the same frequency. You'll also need to use a filter to remove background noise to stop it from going off prematurely. Other than that any plan for a set can be used.

IP: Logged

You could use a photodiode as a light sensitive trigger. Placed inside a long tube as a light shield and pointed in the direction your going to be in, you use a laser pointer to trigger it. This works best at night, but will work in the day too at shorter range. And line of sight of course, but if your interested in, say sabotage, you could set it off from at least 300 yards.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

IP: Logged

that photodiode thing sounds cool. you could crank up the power of a laser pointer just like (i do not know who it was) was talking about on the other thread. use it from like 500-600 yards. But i still think the pager thing is a good idea. it is simple and cheap (if you steal it)^Igenx*, you have a good idea but there is too much work involved (when compared to rigging a pager or cell phone) but it just depends on the availabilities. i guess if you do not have access to a pager or a pager service your idea would work. and NBK, how much our photodiodes? How do they sense the light?

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

IP: Logged
A normal keychain laser pointer might not work for this application of applying it to a photodiode at 500-600yrd.

Contrary to popular believe, Lasers do "spread out" a given amount over a given distance.

My old Laser Keychain which cost about US$70 spread to about "2-3 inches diameter at 800 meters" <-- on given info box.>

If you were to use it to activate the photocell at the distance you stated, you would have to first check if enough intense light from the laser was falling onto the working surface area of the photcell for it to affect it first.

Also you would have to have a very steady mounting for the laser pointer, because at a distance such as 500-600 yards, the 'spot' from the laser would be displaced a great amount at the photocell with even a small disturbance at the end that contains the laser source.

Photodiodes are about less than a equivalent US dollar over here each.
how does the laser diode work though? i tget the basic concept. shine a light on the sensitive membrane and it detects it, but HOW?

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

Photodiodes act like valves. When light hit the diode, it allows a larger amount of electricity to flow through it. When hooked up to an op-amp, it can be used to trigger a relay. And while it is true that lasers spread out, it's also true that you can see the light from the laser a lot farther than you can see the spot. And so can the diode since your shining the laser directly at it. Like how you can see a cars headlights miles down the road, but it's not able to illuminate you. Same thing.

A neat thing also about a light trigger is that if you do this at night and are unable to hit the switch with your laser, the sun will do the job when the dawn comes. You could even use it as an anti-vehicle boobytrap switch. Set it up so that it sets off a charge when a cars headlights hit it. The charge is placed where a car making a turn would be when the headlights are pointed at the switch.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

A Photocell in the dark has a very high resistance because there are no free electrons available to it for it to conduct electricity.

As you know, electricity flows by the movement of electrons through the medium, and hence if there are no free ones available, the current / voltage applied is effectively stopped from flowing from one end of the photocell 'circuitry' to the other side.

The light that falls upon the photocell gives it just enough energy for a few electrons to free themselves from it's 'rest' state and make themselves available for conduction, and hence a current flows from one side of the photocell circuit to the other.

You can also get photocells that work in the opposite way, I.E lets current flow when it is dark, a good idea to use one of these if you want your device to 'activate' come dusk / nightfall.
I don't know how they work though :/
Nbk2000, the thoery you presented about the light being visible, but not illuminating the object is valid, but I don't think it would be suitable for this application at the stated distances above. The eye can see the light, but only because eyes are so sensitive to light, and can detect light even if only a few photons fall onto the retina. However the light does not have enough energy at the above distances from the laser source to trigger the photocell because it has 'spread out' and is not intense enough. Only experimentation will tell.

the IRA once used a technique that involved a light level meter, and a flash bulb on a camera. If the light meter is pointed in the direction where you are than the bright flash will set it off. They use a photoresistor.

Hmmm good idea that 😊  
Except that if a car's headlights happen to fall on it the drivers going to get quite a nasty shock 😊

You could use infrared laser diodes and photocells. They'll only work at specific wavelengths. On that thought, since they're invisible, they could be used for simple, unavoidable (w/o nightvision) boobytraps.

Infared..... not a bad idea, but if a cop car passes it with the sirens on, it'll detonate. But if you want it that way...... heehee 😊
I have a simple question. I bought some potassium permanganate about a month ago in a little 6 oz bottle. When I opened it up I saw that it wasn't powdered so I put ground some up and stored it in a zip-lock baggy. I now noticed that it is turning a darker black color when it use to be a dark purple. Is it decomposing to manganese oxide? Is it still useful? Should I leave it in larger crystal form?

Paul, I don't know too much about KMnO4 but as far as I know yes it is turning into an oxide of some type. It's happened to me before and it still works fine when it is the dark colour. **MATT**

It's turning into MnO2 I guess, maybe you contaminated it when you ground it, or it's too wet.

If you put water in KMnO4 and let it dry, guess what? not purple any more! Brown!
**Igenx**  
Frequent Poster

Copper acetylide is a compound that is a hazzard in welding; it forms an explosive jell when a copper pipe is used to transport acetyline in oxyacetyline welding. The book on welding I was reading said it is shock and heat sensitive explosive. If this stuff doesn't need very specific conditions to make, constant pressure or heat applied, ti could be a very easy to make primer. In the US pennies could be used for the copper the acetyline can be captured and reused, making it very cheap to produce if it will work.

Has anyone heard about the stuff, how to producew it, det vel, sensitivity ratings, etc?

---

**HMTD Factory**  
Frequent Poster

Cu2C2 is not a gel, but maybe they found it in a gel form. The liquid that makes it gelatinous could be water or acetone.

You can't get it from reacting Cu with C2H2, it contradicts their atomic activity levels, copper atoms never win over hydrogen atoms.

The Cu2C2 in the apparatus might form with a long time, copper always have a thin layer of black rust on the surface, then acetylene eat through it.

4CuO + 2C2H2 -> 2Cu2C2 + 2H2O + O2

Or the acetone, being slightly acidic, cause copper to ionize(Cuprous ion) in solution.

2Cu+ + C2H2 -> Cu2C2 + 2H+

However you can substititute pennies with copper salt solutions, blow in acetylene, see what happens=]
The acetylides can be formed from various metals, I recently found out. Silver and heavy metals among others will do the same thing.
HMTD Factory, you must have a little more chemistry experience than me. I'm only halfway through Chem I.

*

If I made you feel uncomfortable then it's my fault, but still I got to say thanx, I start doing pyro related stuff since grade 9, now I am...older, still many things don't know.
I found this while surfing the net and thought it very interesting. And you can't argue with the source.

"Chemical & Engineering News, July 24, 1995

"Government, Industry Efforts Yield Array Of Tools To Combat Terrorism." by A. Maureen Rouhi,

The Oklahoma City blast prompted a second look at a patent awarded 30 years ago to Samuel J. Porter, a hazardous chemicals consultant from Woodbridge, Va. (C&EN, May 29, page 6). The patent claims addition of 5 to 10% by weight di- or monoammonium phosphate will prevent ammonium nitrate fertilizer from exploding.

Four victims of the Oklahoma City bombing have filed a lawsuit against ICI Explosives. The Dallas-based company is a major producer of ammonium nitrate industrial explosives. But it also produces fertilizer-grade ammonium nitrate at its operations in Joplin, Mo., and ships it to agricultural cooperatives for distribution to farmers in Missouri, Kansas, Oklahoma, Arkansas, Iowa, and Texas. The lawsuit claims ICI Explosives should have incorporated additives such as those mentioned in Porter's patent to render the ammonium nitrate fertilizer it produces less explosive (C&EN, May 22, page 11).

E. I. (Joe) Brawner, ICI Explosives president, has told employees: "Our contact with investigating authorities has not resulted in any indication that ammonium nitrate fertilizer produced by ICI was involved in the criminal act in Oklahoma City." Nevertheless, last month, the company carried out experiments to test the claims in the Porter patent. The company prepared "desensitized" ammonium nitrate according to the patent instructions. Then it called on an independent consulting firm that investigates engineering or scientific failures to test the material. The consulting firm, Failure Analysis Associates, Menlo Park, Calif., tested 10-gal charges at a site near Phoenix.

The results, which were recorded on videotape, show neither diammmonium phosphate, monoammonium phosphate, nor calcium carbonate eliminates the explosiveness of ammonium nitrate. ICI Explosives suggests the 1968 patent "covers explosions on such a small scale as to make [it] irrelevant to the terrorist issue." The importance of the scale of testing is reinforced by
Ammonium nitrate explosive enhancers - The Explosives and Weapons Forum

Peter G. Urben, editor of "Bretherick's Handbook of Reactive Chemical Hazards." He tells C&EN: "Because terrorists now use 1,000-lb charges or larger - and the larger [the charges] are, the more likely they will explode, especially if confined - very large detonation tests will be required to suggest inhibition."

Besides, a simple countermeasure exists, points out Kay R. Brower, professor of chemistry at the New Mexico Institute of Mining & Technology, Socorro. The ammonium phosphate can be removed easily from an aqueous solution by reaction with calcium nitrate, to give even more ammonium nitrate:

\[(NH_4)_2HPO_4 + Ca(NO_3)_2 \rightarrow 2 NH_4NO_3 + CaHPO_4\]

The calcium salt precipitates, leaving dissolved ammonium nitrate, which can be recovered by evaporation.

But worse, the heat released from detonation of a mixture of ammonium nitrate and ammonium phosphate is up to 60% greater than that from ammonium nitrate alone, Urben says. He explains that ammonium phosphate acts as a fire retardant for cellulosics by forming a crust that prevents oxygen from reaching the fuel. But in an explosion or deflagration, oxygen already is intimately mixed with the fuel, and the ammonium in ammonium phosphate serves as additional fuel.

Ammonium sulfate, another proposed desensitizer, presents a similar scenario. In a recent article in Chemical Health & Safety [2(3), 22 (1995)], retired organic chemist Leslie Bretherick recalls how, in 1921, a 4,500-metric-ton stockpile of ammonium nitrate containing 45% ammonium sulfate exploded at a chemical factory in Oppau, Germany. The accident killed 600 people, injured 1,500 more, and left 7,000 homeless. The heat released by the reaction of a 2:1 mixture of the salts is also greater than that from ammonium nitrate alone.

Another potential additive is potassium nitrate, says retired chemist Carl Boyars, formerly a senior scientist at the Naval Surface Warfare Center, Silver Spring, Md. Boyars explains that the likelihood of ammonium nitrate's exploding when shocked by a booster explosive is higher each time the ambient temperature cycles through 32 °C. At this temperature, the compound undergoes a phase change. Because the porosities of the phases are substantially different, the porosity of the ammonium nitrate granules...
increases with each cycle, making the material more sensitive to detonation. If potassium nitrate is added to ammonium nitrate to form a solid solution, the phase change does not occur, and the material is less sensitive to detonation. Boyars says military explosive compositions incorporating ammonium nitrate cocrystallized with 10% potassium nitrate were less sensitive than similar compositions with plain ammonium nitrate. He is not aware of any follow-up work on this approach to desensitizing ammonium nitrate."

Interesting, huh? I especially like how the additives are all totally "harmless" and thus unmonitored. And cheap to boot. If you can add 40% more weight to your explosives and get almost 2x the power, go for it! Also, the thermal cycling to increase sensitivity would be easy to do, just have a warm oven going, put in a tray of AN, let it warm up for 15 minutes, take it out and let it cool off, then put it back in. Do that about 5 times and your set.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

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Dr-D posted December 05, 1999 02:41 PM

Ah, but wasn't the OK bombing using ANNM…. Wonder which is correct. ANNM or ANFO…. oh well who gives a damn 😁

---

Ho ju posted December 05, 1999 03:20 PM

I think the bastard used kerosene but I am not sure.

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- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know too much you will go broke!!!

---

Feticidal Fantasy posted December 09, 1999 01:16 AM

He used ANFO and for the fuel he used $1,000 worth of high grade racing fuel. Saw that on TV.

----------------
Feticidal Fantasy-
http://www.darksites.com/souls/vampires/feticidal/
"Keep your gun as your constant companion."
He did use nitromethane racing fuel, and the explosive he used isn't called ANFO (which uses fuel oil (diesel) as the sensitizer), but rather ANNM. Small details, but when dealing with explosives details become very important. After all, ANNM has totally different properties than ANFO.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

if you mix the right ratios for both what is the difference in force between the two? (ie how many meters per sec ANNM faster?)

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Lighter Flints/Incendiaries</th>
</tr>
</thead>
</table>
| **nbk2000**   | Lighter flints are made out of zirconium and hafnium. These are the same metals used in military incendiary liners for cluster bomblets. You can see for yourself by taking a lighter flint, wrapping the spring from the lighter that pushed the flint against the wheel, heating the flint red hot with another lighter, and throwing it against a wall. A brilliant shower of hot sparks is the result.
|              | Now, knowing this, take lighter flints (stolen en masse from the store) and sprinkle them inside your bombs. When the bomb goes off, you not only have the shrapnel, but you also have the red hot flints flying off in every direction, and anything they hit gets showered with white hot sparks, hopefully igniting the fuel liberated by the shrapnel. |
|              | "The knowledge that they fear is a weapon to be used against them."
| **PryoTek**  | If this is so, why can't u grind it up into dust and putting it into a firework because it will make sparks ?? |
|              | Great minds are't made at school
|              | They are born! |
You can do that if you want, but you could probably achieve the same effect for less using sparklers (although the flint are basically inert). Plus, you want the flints to travel intact as far as possible. If they're broken up, they burn withing a few feet of the explosion, whereas, if they're intact when they are projected by an explosion, they will travel a much farther distance without burning until they impact an object.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

Makeshift Napalm eh? Just like the sparks that are shot out in every direction when the napalm bomb hits the ground.

how much heat does it take to make the flint glow red hot?

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

I guess you can do this, climb up a really tall building, on the edge of building, use a torch to heat up several rods of flint, after they got red hot, use some tools to flick them down.

I tried to ground some of those, with mortar and pestle, it's brittle but too damn hard!

the flints are made to "sluff off" when you spark them with a lighter. they have o be extremely hard or they would be worn out inside 10 uses

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
### my first balanced equation...

#### Author: dlwdaw

A frequent poster, dlwdaw, posted on December 11, 1999, at 10:25 PM. They explained their first balanced equation:

\[
2 \text{KNO}_3 + 1 \text{H}_2\text{SO}_4 \rightarrow 2 \text{HNO}_3 + 1 \text{K}_2\text{SO}_4
\]

They read a little of their chemistry books and thought they got it.

\[
\begin{align*}
1 \text{K} & = 39g \\
1 \text{N} & = 14g \\
3 \text{O} & = 48g(16 \times 3) \\
& \text{-------------------} \\
101g & \\
\text{so } 1 \text{ mol KNO}_3 & = 101g \\
\end{align*}
\]

\[
\begin{align*}
2 \text{H} & = 2 \\
1 \text{S} & = 32 \\
4 \text{O} & = 64(16 \times 4) \\
& \text{-------------------} \\
98g & \\
\text{so } 1 \text{ mol H}_2\text{SO}_4 & = 98g \\
\end{align*}
\]

So, 2 mol KNO₃ to 1 mol H₂SO₄ equals 202g KNO₃, to 98g H₂SO₄.

They asked if it was right, and if not, what was wrong. They thanked the responder.

- dlwdaw

"Always look on the positive side of things, blow things up not down"

-- Ragnar Benson

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### Author: HMTD Factory

A frequent poster, HMTD Factory, posted on December 12, 1999, at 04:47 AM. They said the equation was correct.

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<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Potassium Chlorate and Vaseline: does it actually work?</th>
</tr>
</thead>
</table>
| PEACE A New Voice | i have seen in a lot of places that if you mix potassium chlorate and vaseline that it can be detonated with a blasting cap. . . . does anybody know if this actually works?  
and i read somewhere that the tips of WHITE match heads contains potassium chlorate, anybody help me here?  
thanx | posted December 10, 1999 06:44 AM  | IP: Logged |
| Ho ju Frequent Poster | yeah the tips of white match heads contain kclo3. i am pretty sure.  
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!! | posted December 10, 1999 03:31 PM | IP: Logged |
| Survivor Frequent Poster | Potassium chlorate plastique was discussed in another thread. Go there. | posted December 11, 1999 09:22 AM | IP: Logged |

/Survivor
Survivor@netlimit.com

-----------
9 oz KClO₃ and 1 oz vaseline (or one oz anything else that can burn) will explode. It will explode if hit with a hammer, or if hit with a blasting cap's shock wave. It does not detonate. It burns extremely fast.

All burning explosives suffer from low explosion pressure. As a reaction proceeds and pressure builds up, in burning explosives, there is a pressure where the chemicals that are formed by the burning begin to recombine back to what they were, and at that pressure limit the reaction would stop if something could contain the heat and pressure without losing any of it. For black powder it is about 50,000 PSI, that's why you can use that powder in guns that will blow up if you use smokeless powder in them.

Smokeless powder is made of high explosives like nitrocellulose and nitroglycerine gelled into celluloïd like particles. They will detonate if you put a cap in them, and their detonation will not be a burning, but will be a true sonic velocity decomposition of the chemicals in them as the shock wave travels at the speed of sound in whatever chemical is being detonated. It's several thousand meters a second because at high temp, and high pressure, and in solids, sound moves a lot faster than it does in air.

The explosion pressures of high explosives run in the millions of PSI. Their pressures can make steel flow like butter, or even liquid.

Chlorate plus vaseline or any other oil, was called rack a rock and was used around WWI time to do a lot of rock blasting around the world. It makes big lumps and not so much dust as dynamites do. Its about like the dynamites that are used in coal mining where lumps are wanted and not dust.

It has a propagation velocity around 5000 ft per second. (thats the speed at which the "fire" travels down a stick of it in a borehole.

Good High explosives run around 20,000 ft per second.

Rack a rock is only interesting if you have access to gobs of very cheap chlorate. Its too expensive today when chlorate is not all that available.

Do be careful when dealing with chlorate pyro compounds in quality more than a few ozs, for they have caused much grief to those who make fireworks.
ok so what your saying is that double base smokeless powder can be used as a high explosive?

if so then i have 'red dot' smokeless powder i think it is double base, not sure, but anyhow if i wanted it to DETONATE, not deflagrate how could i go about making the right blasting cap?

thanx
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: to fart</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERROR</td>
<td>posted December 08, 1999 06:41 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>what is the chemical composition of fungicide</td>
</tr>
<tr>
<td></td>
<td>u mentioned in ur reply about armstrong mix. and pls tell me that</td>
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<tr>
<td></td>
<td>is it possible to</td>
</tr>
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<td></td>
<td>detonate any high exp. like tnt anfo with it.</td>
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<td>IP: Logged</td>
</tr>
<tr>
<td>fart</td>
<td>posted December 08, 1999 08:34 PM</td>
</tr>
<tr>
<td>unregistered</td>
<td>Zineb is (from memory)</td>
</tr>
<tr>
<td></td>
<td>Zinc Ethylene Bis di thio carbamate</td>
</tr>
<tr>
<td></td>
<td>Most potent of the family</td>
</tr>
<tr>
<td></td>
<td>mildly irritating dust</td>
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<td></td>
<td>Maneb is the same with manganese as the metal</td>
</tr>
<tr>
<td></td>
<td>it makes poor expl and is highly irritating to skin lungs &amp; eyes.</td>
</tr>
<tr>
<td></td>
<td>Firban is the same with iron as the metal</td>
</tr>
<tr>
<td></td>
<td>poor expl more irritating than maneb.</td>
</tr>
<tr>
<td></td>
<td>When zineb is mixed with chlorate it goes by the name zinex to those who use it.</td>
</tr>
<tr>
<td></td>
<td>Zinex can set off dynamite. It takes more than other primary</td>
</tr>
<tr>
<td></td>
<td>explosives, but it will do it. 60% dynamite can be set off with a</td>
</tr>
<tr>
<td></td>
<td>30:06 hull filled with zinex. Use a broken christmas tree low</td>
</tr>
<tr>
<td></td>
<td>voltage bulb (100 string runs about $3) with the filament in the stuff</td>
</tr>
<tr>
<td></td>
<td>and sealed wires to make an electric cap.</td>
</tr>
<tr>
<td></td>
<td>The optimum compression is to compress it to 2/3 of the volume it has after</td>
</tr>
<tr>
<td></td>
<td>the ground fine components are mixed well. Zineb has a fluffing agent in it</td>
</tr>
<tr>
<td></td>
<td>to make it pour well. That's why its only 75% strength.</td>
</tr>
<tr>
<td></td>
<td>Have not tried zineb as a sensitizer for FGAN</td>
</tr>
<tr>
<td></td>
<td>(note ANFO refers to ammon nitrate plus fuel oil) FGAN refers to fertilizer</td>
</tr>
<tr>
<td></td>
<td>grade prilled ammon nitrate.</td>
</tr>
<tr>
<td></td>
<td>Max sensitivity prilled mixes use only 1% fuel like wax (parafin) or moth</td>
</tr>
<tr>
<td></td>
<td>balls (napthalene) to coat the surface to get a very fast</td>
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</table>
initial burn that takes the rest with it if it has some confinement or without confinement is large quantity is present.

Incidentally napthalene and para di chloro benzene (the other kind of moth balls) both make pretty brisant expl with chlorates, and are not overly sensitive to friction, and appear stable in storage. They do not reach Zineb brisance though.

To get the ratios to mix, look up their formula in a chem book, and balance the equation to burn all carbon to CO2, all hydrogen to H2O and any chlorine to chloride of some metal that is carrying the oxygen, or let it go as Cl element. Then adjust, testing for ability to shatter a 22 hull full of it in a can of sand. When you get to 15 pcs of hull you are at Mercury fulminate brisance.

to fire 22 hulls in the sand (or elsewhere) cut a pc of RG58 radio coax cable with dikes to a square end. At other end separate the shield and center insulated conductor for about 4 inches. Connect them to a stun gun and it will spark over the other end and ignite whatever is in the 22 hull. A good test is a drop of Nitroglycerine on cotton in a 22 hull. This makes a cap that will set off dynamite. Instead of the stun gun you can use most any neon or oil furnace ignition transformer on the cable to fire it. Rg58 fits 22 hulls exactly, and a simple crimp with diagonals, or a crimping tool holds it there very well. Using a wire stripping tool for large (# 8 or # 10 wire) will crimp it without damaging the hull.

This ignition method is good for it takes about 6 KV minimum to flash over the square cut end from center to edge shield.

The 22 hulls are available in quantity at any shooting range, laying all over the ground.

The 22 magnum hulls make a much larger cap.

However zinex does not equal AP or other commercial cap materials, but in a pinch it can be made to work when nothing else is available.

Easiest way to set off ANFO is to put it in a old propane cylinder of the 14 oz size, (takes some modification of the tank and is a lot of work) and install a model airplane glow plug (soldered in, NO leaks) and pump it up to 100 psi with propane, then add O2 till the gage reads 300 psi,

One such container, burried 5 ft deep, can loosen the earth from its spot to surface, and stir up the surface about a foot to make easy digging. Such a container would set off larger quantities of ANFO, in sacks, for digging a pond for example.

When gas is introduced into the 14 oz cylinder it does not mix but layers when added. You have to let it stand about an hour so thermal agitation will mix the two, and then it will go. If you use a glow plug and don't overdo the voltage on it and it won't go because you didn't wait long enough you can try try again. Best
to let it stand long enough though. This is only an expedient used to dig water ponds in places where explosives are not available, but oxyacetylene torches are available. Do not use acetylene instead of propane, its unstable at high pressures, and does not have the energy of propane for some reason. Be careful in all you do, and always move with protection as if the stuff could go off at any time, when working with all explosives, and if it does do that one day, for some damned reason you didn't foresee, you will not be as seriously hurt.

Do watch for static electricity when fooling with highly inflamable mixtures like zinex, armstrong, chlorate/sulfur, etc. Usually a small spark won't have the energy to make it go, but you can't predict the energy in a spark, and some sparks will make things go. Best wear a grounding strap on your foot, a salt water wet sock over one shoe and touching your bare leg will do, and keep the floor moist with a light spray of salt water, will kill all static electricity. Or, use one of the straps computer users wear, or technicians wear.

Where fart lives is not publishable. Assume i'm in a country that speaks english.

I told you what Zineb is in chemical language, which is the same in all languages except those that do not use letters in their writing.

I don't have the formula, but had it once.

In the kind of english you may be asking for, just say it is a farm fungicide to put on plants that have fungus infections. Its only available in farm supply stores if at all.

No one makes it in pure form for chemical uses, or at least they did not when I searched for it.

If you can get some in pakistan, then you can quickly experimentally find out the ratios, for the stuff you found, the fluffing agent varies with makers or packers. That's why you have to tune it for your own brand. No one states what the fluffing or flowing agent is.

For all I know it may have been the fluffing agent that made it so good, but I don't think so. The metal zinc gives the outgasses a metal vapor which carries much heat rapidly to anything it encounters, and that usually makes for a good initiator.

No offense taken at your (now tell me where you live). On the net we often communicate with persons who speak another language and have a hard time with english. Sometimes they say
things that come out in English sounding terrible, although they meant well.

Folks discussing explosives will seldom say where they are or even give you a true email address, or their correct name. Some are behind firewalls, because some nations consider discussing such things to be a crime or if not a crime its a good reason to go harrass the person for thinking about such stuff.

Explosives are a tool, like a bulldozer. A bulldozer turned for terrorist purposes can do almost as much damage as a very large explosive bomb. That does not make it bad to study bulldozers, and if that's your interest go to it. Many however are interested in the chemistry of explosives, and many aids to mankind have come from tinkers harnessing explosives in a different way to usefully solve a problem.

If you want to take down a structure you don't have to use explosives. If you can quietly drill its columns with a slow turning hand drill, for example, then you can pack them with several chemicals which expand upon reacting with water, and that will crack the column and so weaken the structure that it will eventually fall when something like strong wind stresses it. Drill many holes and it will come down right away.

There are commercial products for doing just this. They are advt. as rock busters with noise or explosives, and they work overnight.

You can find them searching the net.

The ONLY noise these things make is a pop when the concrete cracks. Most folks would not notice it or think it was anything important. Anyone can get these things, but you don't see any buildings being destroyed by them because they are not as dramatic as explosives.

Anyway many many highly useful chemists began as kids tinkering with chemistry, most made black powder as their first thing, and went on from there. It is very attractive to young chemists.

Search the net for the word "pyro" or "pyrotechnics" and many pages will pop up. Search alta vista and many documents related to it will be shown. Do learn how to find stuff on the net. That's more important than anything else, for to get smart you first have to learn HOW TO LEARN. Not everyone catches on quickly enough to keep from quitting to early.

I was taught these rules:
When studying have NO radio, noises, TV, or other distractions to occupy part of your mind. Let the parts not being used rest, and those working will have more energy and you will get there a lot quicker.

The most important thing to learn is where to find info on the thing you are interested in. Most of the time you can learn what
Others have found out at great expense in time, and then if they have not already answered the question you seek an answer for, you can at least begin to search where they quit. Its called standing on the shoulders of those who have gone before you.

I'll never forget the american company that made a colonge and decided to market it in Brazil. Turns out their famous USA name meant shit or something similar, in Spanish. They learned of that too late.

Some days a fella just ought to stay in bed, cause no good will come of that day's effort.
Now if I could learn how to tell which days that was before they happen.

Sometimes farmers actually buy truck loads of chicken shit to supply phosphorus fertilizer=]
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Gelige</th>
<th>Time</th>
<th>Post Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyroboy</td>
<td>Gelige</td>
<td>posted December 13, 1999 10:25 AM</td>
<td>I found this file on some anarchy page somewhere. I send it to Megalomania and he told me it was just gunpowder with corn flaks in it. I would like to know what other people think, because I read somewhere that some guy made it and it really worked. Please if anyone has info post it! This is the file. CRAP REMOVED so what do you people think? <strong>MATT</strong> [Note: This message has been edited by megalomania]</td>
</tr>
<tr>
<td>Fjp92</td>
<td></td>
<td>posted December 13, 1999 12:16 PM</td>
<td>I dont want to disappoiont you but this must be the most fucked up recipe for explosive that i have seen in my life. Even if you can get the stuff to burn it would be burning pretty shitty.</td>
</tr>
<tr>
<td>Ve He MT</td>
<td></td>
<td>posted December 13, 1999 01:59 PM</td>
<td>If you made this crap to absolute precision, think burning road flare, only without that bright red colour. It is ABSOLUTELY not worth making. If you want to learn how to make HIGH QUALITY black powder check out Dan William's pyrotechnics web site. <a href="http://www.ctel.net/~dwilliams/index.html">http://www.ctel.net/~dwilliams/index.html</a> Here is a direct link to his black powder section: <a href="http://www.ctel.net/~dwilliams/blackpowder/blackpowder.html">http://www.ctel.net/~dwilliams/blackpowder/blackpowder.html</a></td>
</tr>
</tbody>
</table>
It will burn, maybe burn fast, but not necessarily this way. I have heard something like "Playdough dynamite", just bogus.
Author: rjche
Topic: Online chemistry instruction, bal equations etc.

Go to this URL
http://users.foxvalley.net/~chemengr/index.html

this is a page in this site. The site has much info on chlorates and perchlorates, and other info, but the balanced equations tutorial is a good one. surf around it.

You can load all on the site onto a disk in html document form, and then insert that disk in your drive and use the file manager or equivalent, and dbl clik a htm document and it will bring up your browser and show the documents from the disk. If it asks to connect to the internet, just close that and it will then go to the disk for the document.

If you copy a html document with pictures you must save each picture, one by one, and store them with the html document they go with, and on my browser when you clik the document it puts the pictures back into it if they are stored with the same document name they are loaded to you with.

IP: Logged

Author: rjche
Topic: Online chemistry instruction, bal equations etc.

BTW, the site above uses a double html page which will NOT copy as a HTML document using my explorer browser. It appears to copy but when you look at file mgr, the file contains only about 500 bits which is not enough to be a html file. Trying to replay it shows it didn't load the two halves.

I solved it by using edit to select all of the text on the right side of double pages, (they are framed so there is a selection on the left and the page you want on the right)

then via edit copy it, and then paste it into a notepad page, and clean it up some using the webpage as guide to make tables readable on the text version.

His main page has many things other than chlorate data.

IP: Logged
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: can 60% HNO3 be used for explosives?</th>
<th>Date/Time: December 13, 1999 03:07 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phobos</td>
<td>posted December 13, 1999 03:07 PM</td>
<td></td>
</tr>
<tr>
<td>A New Voice</td>
<td>all the nitrate explosives on megas page need 90% or stronger HNO3. but it is not possible for me to get it that strong, and i cant afford buying a distillation apparatus. i have tried NG and TNT, ans it didnt work, but are there any explosives out there, which work with the diluted acid? Thanks very much, PhoBoS</td>
<td></td>
</tr>
</tbody>
</table>

| IP: Logged   |                                      |                                      |

| HMTD Factory | posted December 13, 1999 07:44 PM         |                                      |
| Frequent Poster | Urea Nitrate. check out old thread.       |                                      |

| IP: Logged   |                                      |                                      |

| HMTD Factory | posted December 13, 1999 08:00 PM        |                                      |
| Frequent Poster | Or use weak HNO3 to make NaNO3, then use NaNO3 and H2SO4 to make pure HNO3. Fulminates use weak nitric acid and ethanol to make too, try copper fulminate, less poison. |                                      |

| IP: Logged   |                                      |                                      |
with weaker nitric use more sulfuric to soak up the extra water present.

1 vol 67% nitric and 5 vol 95% sulfuric will nitrate glycerine as well as stronger acids.

This is wasteful of sulfuric, but if you got it this will work.

If both are scarce best to use sulfuric to make strong nitric and then use both strong sulfuric and strong nitric to nitrate things.

Keep in mind that the waste acid left over after you nitrate soluble organics like glycerine is contaminated with that organic, and if you let the warm up to room temp, they will "go" eventually unless diluted greatly with water. They usually just boil up without fire, and I have not heard of them exploding, but all things are possible to a cursed chemist.

And don't pour water into H2SO4, pour H2SO4 into water instead, or it will splash.

yah and if you can find some m-creasol you can make trinitro-m-creasol which is almost as powerfull than TNT.

Rolf
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Armstrong Explosive</th>
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<tbody>
<tr>
<td>Preda tor</td>
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<tr>
<td>Frequent Poster</td>
<td>posted December 06, 1999 04:26 PM</td>
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<tr>
<td>Ho j u</td>
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<tr>
<td>Frequent Poster</td>
<td>posted December 06, 1999 05:58 PM</td>
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<tr>
<td>Ve He MT</td>
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<tr>
<td>Frequent Poster</td>
<td>posted December 06, 1999 06:46 PM</td>
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</tbody>
</table>
Ho ju
Frequent Poster

posted December 06, 1999 06:58 PM

how much red phosphorus do you get from one "striker"

------------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

fart
unregistered

posted December 06, 1999 08:48 PM

Here's how you do it:
K Cl 03 = Potassium Chlorate, Its molecular wt is:

K= 39
Cl= 35
O= 16 x 3=48
K+ Cl+ 3xO= 122 which is its molecular weight. It is also the weight of it which contains 10 to the 23 power (10E23)number of molecules of potassium chlorate.

P=123 an element. 123 grams contains 10E23 atoms of P

These molecular weights relate the weight in grams to the number of atoms or molecules of a thing. That lets you go from a number formula to a weight formula.

The unbalanced formula is
KClO3 + P = KCl + P2O5
You want to burn the phosphorus to its highest oxide which is Phosphorus pentoxide, same stuff that makes phosphoric acid.

To find the proper ratios you have to balance the equation so there are the same number of atoms of each thing on each side of the equal sign. This is like solving an algebra problem,... you try numbers till it works.

If you do it you get:
15 KClO3 + 18 P = 15 KCl + 9 P2O5
Notice there are the same number of atoms on each side of =
Left side = right side
15 K 15K
15Cl 15Cl
15x3=45 O 9x5=45 O
18P 9x2=19P

This is the least number of molecules of KClO3 and P which "balance" to give equal numbers of each atoms both sides of the = sign. The atoms only come in molecules of KClO3 and P so you have to juggle things so you get whole numbers of those two ingredients.

Now to figure how much weight of each:
15 x 123 = 1830 grams of KClO3
and 18 x 123 = 2214 grams of P
If you divide the larger number by the smaller number you can get the grams of P for each gram of KClO₃:

\[
\frac{2214}{1830} = 1.21
\]
close enough.

So mix one gram KClO₃ with 1.21 Grams P to get into maximum trouble.

YOU’VE BEEN WARNED THAT THIS IS AN ESPECIALLY DANGEROUS COMPOUND TO FOOL WITH. DO NOT TAKE THAT WARNING LIGHTLY. RUNNING AROUND FOR MONTHS WHILE YOU GROW NEW SKIN ON A HAND IS NOT FUN. DEAL WITH SMALL QUANTITIES (1 GRAM KClO₃ AND 1.21 GRAMS P) TO START WITH SO WHEN YOU HAVE YOUR INEVITABLE ACCIDENT IT WILL BE ENOUGH TO TEACH YOU RESPECT FOR THE STUFF, BUT NOT ENOUGH TO REMOVE APPENDAGES FROM YOU.

The reason P mixtures are so sensitive is P is almost at its ignition temperature at room temp, so P acts like Sulfur would it was almost molten, and you know that sulfur heated to near its melting point will explode with nearly any oxidizer. As far as P is concerned it is already heated to near its burning temp, just room temp. If you work with P at 40 below zero F, it will behave more like sulfur does. Because its already so hot that its molecules are like an bitch in heat looking for oxygen or any other reactive chemical, (yes it will burn all by itself with no help from you, if mixed with other things, like powdered metals, powdered bleaches, etc.)

Red P is listed in Cenco for $15.90 per 100 grams plus it probably costs another $14 haz mat on delivery, plus they won't sell chemicals to anyone except companies and schools, because they don't want to get sued because some kid flamed himself.

Yellow P is not sold now for it catches fire spontaneously if removed from its storage under mineral oil. It is hungrier for oxygen than the red type. Both are pure phosphorus but the red type has its molecules arranged differently mechanically, so it is less reactive than the yellow. Also both are quite poisonous if you ingest them. Folks used to put phosphorus compounds on watches to make their hands glow in the dark, and the workers died of p poisoning at a pretty regular rate. So if you are digging it off match books, do treat it like a poison, and do wash your hands before eating. It is a cumulative poison, meaning a tad today, and a tad next week all adds up till you have the critical amount to poison you then the doctor will shake his head and say Dang son, how in the hell did you do that? He'll also tell you there's not much he can do for you, but would you mind standing in this dark closet to see if you really do glow in the dark? I never seen a P poisoned person before and only read of it in books, and if you'd just stand in there I could see if its true. (its not, but he'd not know that till he saw it himself).

Red P spontaneously oxidizes upon exposure to air, but much slower than does yellow P, so Red P does not catch fire, when exposed to air, but it does create small quantities of P₂O₅ which being delequescent absorbs moisture from air and forms phosphoric acid (concentrated), which greatly accelerates its oxidation.
If any chlorate or other oxidizing material is present the acid greatly accelerates the decomposition of the oxidizer and will cause armstrong mixtures to spontaneously ignite and explode in a time varying from a day to months depending on temperature, and purity of the chlorate etc. (sulfur mixes have the same problem and need alkali also)

To stop the acid formation about 1% by weight of an alkali or basic substance is added. Chalk, dried milk of magnesia (Magnesium oxide), or bicarbonate of soda will all react with any acid that occurs and keep the mixture neutral. This only works if the armstrong mix is stored in air tight container. if exposed to air it will overwhelm the additive and then "go" same as if none was present. Choose alkalis which tend to dry themselves out when exposed to air, and avoid those that soak up moisture from air.

Beware that this mixture is extremely friction sensitive, and a tad caught in threads of a bottle cap can touch off the whole bottle, and put parts of you into orbit.

The mixture is normally stored under water, or at least soaking wet, with alkali in the water to prevent it igniting. Mixtures that are soaking wet with water and no alkali left, will usually not explode but can flame and create gobs of white smoke when they ignite.

It has little advantage over other chlorate mixtures as to explosive power (sulfur is about equal) and since all its end products are solids at room temp, the blasting power is not all that great although it gives off great energy like burning aluminum or magnesium.

Other than a curiosity to the ignorant, the mixture has no real advantage.

If you want a mixture that is almost as good and is not very dangerous, nor sensitive to friction, or to spontaneous combustion, and has almost the power and brisance of mercury fulminate, use potassium chlorate and the farm fungicide known as Zineb.

The ratio is about 3.5 grams KClO3 to 1 Gram Zineb, and you can tinker with that ratio to get best fragmentation of empty .22 lr hulls to fine tune it to your batch of Zineb. Zineb is a good stable fuel for lots of explosive mixtures.

It is sold as a powder that is 75% pure. It costs about $2 a pound in 5 pound bags at farm coops.

Chlorate Zineb mixes are very sensitive to flame, relatively insensitive to friction, and to blows, compared to other chlorate mixtures, and is almost as good as Armstrong in all things, and vastly more safe to fool with.

However if you manage to set off as much as about 25 grams or so, of zineb chlorate mix, it has the capability of doing you serious damage, even if not confined in any kind of container. In a container, that much is truly awesome, but not quite as much so as some high explosives. Remember a hand grenade only has
about 25 grams of explosive in it, and it can move walls, windows and people, rather violently.

I've spent some time on this because I want to discourage you from fooling with Armstrong, and the only way I know to do that is to satisfy your curiosity by my own experience, and by showing you something better and safer.

You have probably got a curiosity about nuclear weapons too, but they also are dangerous to tinker with. If you could get the stuff you'd have to run an experiment to see what its critical mass was, and if you did that wrong you'd have a miniature nuclear explosion in your face. No blast, but a flash of radiation that would kill you for sure. Its best to learn of this from the one fellow who made that mistake, and died a few days later, rather than try to repeat it.

In explosives chemistry try to learn from other's mistakes for if you make some of your own it's not likely you will ever amount to much more than a handicapped person.

DO not try things without some advice from older and skilled chemists. Listen to their advice about not doing certain things. You wouldn't take an untested and unmeasured roll of bungie and make your own, go jump off a high bridge, to see if it was too long or not. Mixing some chemicals is similar to doing that. Experienced chemists search books on explosives and do math to see what energy is made available by things they intend to mix BEFORE they do it. Often the books will warn them that people have been hurt doing just what he wanted to do. You don't have such books, so you have to be careful as a mouse in a dog pound.

I don't know if this forum's engine will post all this for it is a tad long, but I'll see.

---

HMTD Factory
Frequent Poster

I found it on my pyro book:

20 portion KClO3
8 portion Red Phosphorus
1 portion sulfur
1 portion CaCO3
some glue and sand.

IP: Logged
got to checking your pyro formula and it disagreed mightily with the weights I came up with in my post on balancing the formula. Checking why I discovered I made a stupid mistake in the weight for P in my post on balancing the armstrong mix.

Used the Hndbk of Chem & Physics, for P wt.
An older edition that is in very small print and 3000 pages long, gave the molecular wt for P4 and not P, and I didn't notice that tiny subscript 4 there.

The weight ratio I gave would still go rather furiously for p and chlorate mixes will go in almost all ratios.

The correct part about getting the proper weights using 31+ but most books give it as 32, so I'll use that as the wt for P and the correct weigths would be this:

Here's how you do it:

K ClO3 = Potassium Chlorate, Its molecular wt is:
K = 39
Cl = 35
O = 16 x 3 = 48
K+Cl+3xO= 122 which is its molecular weight. It is also the weight of it which contains 10 to the 23 power (10E23) number of molecules of potassium chlorate.

P = 32 an element. 32 grams contains 10E23 atoms of P

These molecular weights relate the weight in grams to the number of atoms or molecules of a thing. That lets you go from a number formula to a weight formula.

The unbalanced formula is
KClO3 + P = KCl + P2O5
You want to burn the phosphorus to its highest oxide which is Phosphorus pentoxide, same stuff that makes phosphoric acid.

To find the proper ratios you have to balance the equation so there are the same number of atoms of each thing on each side of the equal sign. This is like solving an algebra problem.... you try numbers till it works.

If you do it you get:
15 KClO3 + 18 P = 15 KCl + 9 P2O5
Notice there are the same number of atoms on each side of =
Left side = right side
15 K 15K
15Cl 15Cl
15x3 = 45 O 9x5 = 45 O
18 P 9x2 = 19 P

This is the least number of molecules of KClO3 and P which "balance" to give equal numbers of each atoms both sides of the = sign. The atoms only come in molecules of KClO3 and P
so you have to juggle things so you get whole numbers of those two ingredients.
Now to figure how much weight of each:
15 x 122 = 1830 grams of KClO3
and 18 x 32 = 576 grams of P
If you divide the larger number by the smaller number you can get the grams of KClO3 for each gram of P:
1830/576 = close enough.
So mix 3.17 grams KClO3 with 1 Gram P to get into maximum trouble.
Incidentally the pyro book's formula appears to be a bit shy on the KClO3, for maximum whump.
A quickie check without doing all the math suggests that 8 portions P would need 8x3.17
or 25.36 portions KClO3 to burn it all, and the 1 portion of S would take 2.54 portions KClO3
to burn it, so unless I made another mistake a better mix would be 25.4 + 2.5 or 27.9 grams Kc103 and 8 gms P and 1 gm S, and as for putting sand in it, I would not be that brave. The slightest pressure or friction would surely ignite it for the sharp edges of a grain of sand pushing against another grain, can reach enormous psi values, and P and ClO3 won't tolerate much pressure.
Of course you could probably get away with it maybe 99 times out of a hundred, but you are playing a game where you can only loose once and you are out of the game. Just dropping some on the floor could make it go. Woe to ya ass if you had a cup full and dropped that. Don't know about you, but I drop stuff all the time. I gotta make sure stuff I handle can take dropping or fart will only be a stinky cloud of smoke that blows away on the wind, neer to be seen again. If you do add sand, do it in no more than 1 gram lot first try, and play with that to see how sensitive it is. It may approach nitrogen triiodide in treachery.
The acid neutralizer is good. However as I said almost any ratio will "go", but when its balanced right, it goes at its best.
It would help if someone checked my numbers, I do make mistakes, and its hard to find your own mistakes sometimes, like one cannot proof read his own writing successfully, because his subconscious sees the previous mistake as fine, and will not notice many mistakes in an article, whereas another person can spot them like flies on a sandwich.
Many heads are better than one...as long as ego can be kept in its cage.
Sorry about the mistake, but I have not used P all that much, or I would have noticed that 123 was way to heavy for P.
The lesson to learn from this is to watch for chem books that list the molecular weight of elements as their combined weight in some peculiar multi atom assembly which they prefer to go around in, and don't put some sort of warning on that data.
True I ought have seen the 4 after the P, but with my eyesight these days, flies get away with murder for they are just fuzzy distortions in my visual
field, and tend not to be noticed. I wonder if that's what makes some of my
sandwiches taste funny now and then?

Hell, if y2k does its predicted thing, I may have to make a fly sandwich
recipe, as food gets scarce, and protein becomes almost a rarity.

Take care, and do check the numbers anyone else gives you, if you can, and
if you can't it would ge good survival insurance to learn how to figure it
yourself.

When you do a calculation with calculators they tend to give you mistakes in
14 decimal place accuracy, and that tends to make one believe they may be
correct. Develop the habit of rounding all numbers off to even numbers and
calculating those. they are much easier to do without mistakes. Then your
fancy hi accuracy calculator number better be about the same as the one
you calculated roughly or there may be what used to be called a slide rule
error, which means something was read ten times too big or too small, and
the thing calculated would withstand the wrath of god for being ten times to
sturdy, or break of its own weight for being ten times to weak. This is a very
important skill to develop, for you can ball park things and spot mistakes
easily doing that.

Example, What's the cu ft in a bldg 22.4 x 13.9 x 11.3? Try 20 X 15 x 10 to
get 300 x 10
or about 3000. the calc says 3518.363, so the
accurate calculated result is in the ball park of the rough calculated value, and
its probably right. This skill will save your ass on tests, where the most
common mistake is a really big one.

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<th>IP: Logged</th>
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<tbody>
<tr>
<td>HMTD Factory</td>
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<tr>
<td>Frequent Poster</td>
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<tr>
<td>posted December 13, 1999 11:39 PM</td>
</tr>
</tbody>
</table>

I don't assume all pyrotechnic products are
oxygen balanced, sometimes things are extra to dull the performance, like
naphthalene mixed with black powder to reduce the explosive property and
gives a fireball.

In this case maybe they don't want it too
loud to damage kids' ears, since it's used
in toy gun firecaps.

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<tr>
<th>IP: Logged</th>
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<tbody>
<tr>
<td>Ve He MT</td>
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<tr>
<td>Frequent Poster</td>
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<tr>
<td>posted December 14, 1999 02:15 PM</td>
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</tbody>
</table>

But thats what the "Do not fire closer then 30cm (1 foot) from ear" is for

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<th>IP: Logged</th>
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<tbody>
<tr>
<td>HMTD Factory</td>
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<tr>
<td>Frequent Poster</td>
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<tr>
<td>posted December 14, 1999 06:31 PM</td>
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</tbody>
</table>

Maybe they don't want to damage peoples' ear
when they try to extract them=]

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Detonation Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predator</strong></td>
<td>I've looked long and hard and could never find a page that detailed detonation rates for explosives. Does ANYONE know the detonation rates (open and confined) for Armstrong and other explosives? Perhaps a list of them in ascending order? Cheers in advance -Predator.</td>
</tr>
<tr>
<td><strong>Al Koholic</strong></td>
<td>Armstrong's mixture doesn't detonate...its low explosive. I suppose if you had a shit load of it in a pile it might proceed to detonation but it would be an extremely weak detonation. Nothing like HE. Try denting a steel plate with armstrong mixture and it probably won't work. Al</td>
</tr>
<tr>
<td><strong>Andy</strong></td>
<td>You can check out one of my pages: <a href="http://www.calisland.com/apcg/chemistry/info_explosives.htm">http://www.calisland.com/apcg/chemistry/info_explosives.htm</a></td>
</tr>
<tr>
<td><strong>Predator</strong></td>
<td>Actually Al koholic, I have left a football sized dent in my steel filing cabinet door (3mm thick) from a thimble sized amount that was detonated electrically and confined. Someone told me once that it was classed as a HE.</td>
</tr>
</tbody>
</table>
Confined explosives have good results in common.

In my opinion, the dividing line between low and high explosives is in the explosion pressure. Armstrong is indeed nasty stuff, but its energy is comparable to perchlorate and aluminum. Recall that an M-80 back when they had about a thimble full of perchlorate/al in them would take out mailboxes in grand style, with only paper confinement. The more confinement up to the point where it can't bust out at all, stores energy in the internal pressure and raises the impact it imparts to things near it. That's why a hand grenade loaded with FFF black powder will do about as well as one loaded with other stuff. The grenade container lets go long before the 50 kpsi that FFF can create, and does the same regardless of the filler. However really sassy fillers like picric acid which the japs used in WWII caused their grenades to frag into sand like particles, so the marines who were fragged, would SURPRISE, not die, but would smart fiercely from the erosion of the flying sand like particles that ate them up on the surface. The Japs corrected that later.

One measure is what the stuff will do to steel unconfined. High explosives (HE) can dent or flow the steel they rest on if detonated, whereas all burning (LE) will only scorch it, but the surface remains un-moved.

Anyway brisance, (the rapidity or violence of an explosive) is not everything. One needs enough brisance, along with enough energy output to do most jobs well.

I remember dynamite caps were once tested by firing one standing verticle on a lead block an looking at the pattern the shrapnel made in the block to estimate its brisance.

I heard tales that black powder was tested by ancient warriors by putting a teaspoon on the open palm and lighting it. If it was good stuff it puffed off with little or no harm to the hand, but if it was too moist it burned hell out of you, because it went more slowly. Guess that was better than loading your gun with it and having an ineffective shot. Wonder if they had dumbed down recruits named "powder testers"? If so I bet they developed a very keen ability to sense moisture in powder after a while, without "testing" it.
Well..try placing a 5 gram sample of armstrong mix on a lead block and then
do the same with a 5 gram sample of say NG. The unconfined armstrong will
most likely do nothing to the block, while the NG will make a nice dent.
Confined vs unconfined are totally different things. Power will increase
greatly with confinement in a dddition to having whatever casing was used fly
out in all directions.
Al
i was thinking of attempting to make trinitriphenol from aspirin (acetylsalicylic acid), sulfuric acid and potassium nitrate.

BUT I was looking for some advice on safety or even a tried method from someone in this forum? i read that this is very toxic and contains picric acid. Should i attempt to make this? i mean would anybody in here make it?

also if i boiled sulfuric acid until white fumes appeared approx. how concentrated would it be? enough to form the explosive above?

thanx
-PEACE

Trinitrophenol and picric acid are the same thing! And yes it is toxic so don't eat it or touch it with bare skin. Also, don't inhale any of the fumes given off during the nitrate addition to the acid mix. Do all the heating and mixing outdoors.

Boiling sulfuric acid will concentrate it to above 90% which is more than adequate for making picric acid. My explosives section has several different process for making picric acid.

------------------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
hehe shit i didnt know that!!!

thanks for the info nbk2000, and what would detonate this explosive effectively?
btw is trinitrophenol more powerful than TNT?

thanx
-PEACE

AP or HMTD would work just fine. Just keep the picric away from metals if your going to keep it for any length of time. As for power, it's more powerful than TNT, but because of the expense and metal reactivity, it's no longer used by the military.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

Peace, you can wash your product with some ammonia, it will get rid of the remaining acid, react the picric acid into Explosive D, ammonium picrate, used in HEAP.
can smokeless powder be detonated as a 'high explosive'? - The Explosives and Weapons Forum

Author: PEACE
Topic: can smokeless powder be detonated as a 'high explosive'?

I'd like to know once and for all if double based powders actually detonate as high explosives. I have got a good amount of 'hercules red-dot' smokeless powder (double base).

If I detonated this with a primary explosive (most likely to be AP or HMTD) will the powder detonate as a high explosive?

And if it did what would be the extent of damage it could cause in respect to amount used?

Author: darcey
Topic: can smokeless powder be detonated as a 'high explosive'?

Yes it will detonate but I'm not really sure what damage or power you will get out of it. Give it a try, it's the only way to really find out. You said you have heaps of red dot so have a bash at it and post the results.

Author: PEACE
Topic: can smokeless powder be detonated as a 'high explosive'?

Ok I'll try with AP or HMTD

But u know party poppers? the little pull string thingys that blow streamers everywhere. well anyway I blew up some red dot with the explosive from the party popper. I wasn't impressed with the power form that, so I was wondering if the AP or HMTD would make it detonate more powerfully?

Author: nbk2000
Topic: can smokeless powder be detonated as a 'high explosive'?

Smokeless powder (or nitrocellulose as it's more properly called) can be detonated, but you need to use proper detonators to do the trick. Party poppers won't do it, all it will do is ignite it. As a matter of fact, NC burns slower than black powder.

As for power, NC will detonate at between 20,000-22,000 FPS. About the same as TNT. You can make plastique from smokeless powder. Go to http://www.50megs.com/nbk2000/weaponsandtactics/explosivesindex.html and look in the "guncotton" section for instructions on how to do it. You'll also find several files on making proper detonators too.

-------------
"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

IP: Logged
I thought that only double base smokeless powder could be used as a high explosive? I agree that those party poppers are useless for detanators only with a primary explosive they will be useful and thats cause they can be used for rigging simple booytraps.

The nitroglycerine is what detonates, not the nitrocellulose, right? Only single base smokeless powder can rightly be called nitrocellulose.

Both NG and NC are high explosives. Single base is straight NC, double base is a mix of NC and NG. Double base is slightly more powerful than single, but both are as powerful as TNT. My "Gun Cotton" page in the explosives section of my site explains all about it.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

single base smokeless powder uses only lightly nitrated cellulose, therefore low power detonation, but both single and double will provide more power if properly detonated..

i remember pointing out that red dot is a faster powder than green dot, which was detonated on "makeshift arsenal" comparing it to a single based powder..

, there you can see what to expect.. also remember that the shotshell powders are low density therefore if you could somehow raise the density you can expect a higher VOD..

how much AP should i used to det a 6in pipe bomb of black powder and the pipe is about a 1in D

Black powder does not detonate. But as the thread name would indicate, Nitrocellulose does...

2grams should be enough. Someone correct me if im wrong.

Make sure it is in a tube(aluminum, copper etc..) with one end blocked. Go to nbk2000, explosives section and read the information he has on making blasting caps, I can assure you, you will not need to ask anymore questions after reading the blasting cap files.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: What is 'mercuric oxide'?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEACE</td>
<td>posted December 14, 1999 06:57 AM</td>
</tr>
<tr>
<td>PEACE Frequent Poster</td>
<td>posted December 14, 1999 06:57 AM</td>
</tr>
<tr>
<td>fart unregistered</td>
<td>posted December 14, 1999 09:51 AM</td>
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</tbody>
</table>

Does anybody know what mercuric oxide is and how can it be obtained?

Does it come as 'mercuric oxide' or do u hafta make it from 'mercury' itself?

I have a method on making mercury fulminate from the oxide and ammonia.

Thanx

Handbook Chem & Physics lists only one oxide of mercury which is Hg O with mol wt=216 and calls it mercuric oxide, a red or yellow powder.

It's formed by heating mercury in the presence of oxygen, (air will do). This is hazardous for the amount of mercury vapor that pollutes the air will give you a fierce headache, which comes from acute mercury poisoning. It's also bad for your IQ.

If the oxide is heated it will yield oxygen and lots of Hg vapors and a good headache.

Mercury is a cumulative poison, so you can get a tad here and a tad there and eventually you develop mercury poisoning symptoms, and suffer some permanent damage.

Health rules are very strict about spilling mercury, and breathing its vapors, and especially about ingesting any of its compounds or the metal itself.

Long ago it was a cheap useless product, and was sold in hardware stores by the pint to dump into clogged drains. Its great weight, and liquid form allowed it to push clogs on down the pipe by sheer impact and weight.

It also polluted hell out of water supplies wherever the mercury ended up, but then no one knew it was so harmful.
It is poisonous as are all mercury compounds.

There was a fable on the net and elsewhere about a super (nuclear?) explosive called red mercury, but so far all attempts to prove its existence have fizzed out, so I list it yet as a fable.

It would help if you could explain what you intend to do with it, for some of us may have helpful knowledge about that.

Whack open couple thermometers, collect the silver liquid in non-metal trays.

Use mercury, alcohol, nitric acid to make mercury fulminate instead, heating up Hg to make HgO will damage nerve cells, if gas inhaled, I've seen documentary of people drank mercury contaminated water, they can't control their hands and legs, keep flipping like hummingbirds, non-stop, really terrible.

There are two types of mercury oxide, mercurous oxide (which is orange), and mercuric oxide (which is green) If you are wanting to make Mercury fulminate you will need to have MERCURIC oxide, and of course ammonia. This does work, but is a very slow reaction. Mercury fulminate is Hg(ONC)2. For anyone who isn't familiar with this, you mix 1 part HgO to 10 parts (by volume) concentrated ammonia solution. This is then left for say two weeks, and a precipitate forms which is mercury fulminate. As I said it does work, but if anyone knows where the hell does the carbon come from? is it from CO2 in the air??????

isn't Mercury fulminate EXTREMELY sensitive! and i am talking about extreme here. or am i mistaking it for another fulminate...like silver?

------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
Maybe what is being formed with the ammonia and mercuric oxide isn't mercury fulminate but nitrogen trimercurate. Like iodine reacts to form an explosive with ammonia, maybe the mercury is doing the same thing.

----------------------

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

If there's no carbon involved in the process, then there's obviously an error. Every books I have read said mercury fulminate is made using ethanol, mercury, and nitric acid.

There is lead azide, but it is made using sodium azide and lead acetate, if soaking metal oxide into ammonia or ammonium gas will produce azides, then why will they bother using this reaction, while there's a simple one? Not logical.

Metallooxides with ammonia will not form azide. Its Nitrid. And you can make sodium azid out of sodium amide and N2O.
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: urea nitrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>wave</td>
<td>posted December 17, 1999 08:22 PM do any one know how to make this stuff or some thing close to it or even a web page that tells you how to make this stuff if anyone can help thanks</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>posted December 18, 1999 03:11 AM Relatively easy to make, soak urea into nitric acid of any concentration, then you will see insoluble white frost, that's it, then you will face the hard job of drying it.</td>
</tr>
<tr>
<td>wave</td>
<td>posted December 18, 1999 03:22 AM thats it it cant be that simple on the other hand where can i buy urea anyway and this stuff is suppose to be very stroing right</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>posted December 19, 1999 03:11 AM Urea is used as fertilizer. And nope, it's not that easy, you need to admitted by Harvard to make that, and nope, it is just that simple.</td>
</tr>
<tr>
<td>Username</td>
<td>Post Date/Time</td>
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</tr>
<tr>
<td>Ho ju</td>
<td>December 19, 1999 11:19 AM</td>
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<tr>
<td>Dr-D</td>
<td>December 19, 1999 12:46 PM</td>
</tr>
<tr>
<td>Ho ju</td>
<td>December 19, 1999 02:43 PM</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>December 20, 1999 06:46 AM</td>
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</tbody>
</table>

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Nitro Methane: How do ya purify it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEACE</td>
<td>posted December 10, 1999 12:54 AM</td>
</tr>
<tr>
<td>im in australia and the highest content of nitromethane available to me is 35% pure. Id like to know if it is possible to extract it without using any fancy chemistry equipment. thanx</td>
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<tr>
<td>IP: Logged</td>
<td></td>
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<tr>
<td>HMTD Factory</td>
<td>posted December 10, 1999 06:03 AM</td>
</tr>
<tr>
<td>What is NM mixed with in that fuel?(methane? gasoline?) Is NM soluble in water? If the first answer can mix with water, and the answer to the second question is not, try pour some into water see if it devides into two layers...if it does, one of them is NM, you are not going to bomb something are ya?</td>
<td></td>
</tr>
<tr>
<td>IP: Logged</td>
<td></td>
</tr>
<tr>
<td>darcey</td>
<td>posted December 10, 1999 06:09 AM</td>
</tr>
<tr>
<td>i'm in Australia too and have pretty much given up on ever getting some cheap 100% nitromethane. As for trying to extract it, you would mostlikely need to do it with fractional distillery and fuck knows where you would find one of those. Nitromethane is so hard to find in Australia because there are only two types of drag cars that use it here and they both cost in excess of a million dollars. Thats why not many people have them and thats why there isn't any nitromethane about. Try tolurine or how ever you spell it, i can get 98% and it does the job.</td>
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</table>
HMTD Factory, I think its 35% NM and the rest gasoline,
so is it possible to purify it without the use of a fractional distillation kit?

thanx

Ve He MT

Forget EVER finding "cheap" nitromethane. Just use naptha or toluene, darcey has said both work well. Or just make ANFO, it will be harder to detonate though. Also, I dont see why nobody has tried using the model fuel as is, with the alcohol.

HMTD Factory

NM and gasoline get along too well, nah.

But gasoline is very volatile, and NM boils at 101 degrees Celsius. Open the container let things vaporize will increase concentration of NM but it will never be pure.

Survivor

I agree with VeHeMT, use the model fuel as is. Here is an article taken from "Kitchen Improvised Plastic Explosives II" by Tim Lewis:

NITRO METHANE PLASTIQUE # 2

This plastique explosive is very simple to make. It makes use of the tendency of nitromethane to gelatinize or collidize nitrocellulose.
The nitromethane used in this process is obtained from model airplane racing fuel. The fuel used is 35% nitromethane content. Ammonium nitrate and glass microballons or powdered styrofoam are used. As in other explosive compositions the glass microballons (microspheres) are used to reduce the density of the explosive thus sensitizing it to detonation from a #6 blasting cap. This novel explosive does not require the nitromethane to be separated out of the model airplane fuel. This explosive will be the equivalent of 75% dynamite. Brisance is very high and detonation rate should be around 6000-6600 M/sec.
MANUFACTURE-
Place 200 grams of 35% nitromethane model airplane racing fuel in a glass container (jar). Add to this 30 grams IMR smokeless powder (DuPont) in the racing fuel and let set for three days. The nitromethane will gel the nitrocellulose (smokeless powder) and after this amount of time the gooey gelled nitromethane/nitrocellulose is scooped out of the liquid with a spoon.
The oil remaining on the goo is allowed to run off and the gelled nitromethane is then mixed with 210 grams of finely powdered ammonium nitrate fertilizer. This is kneaded with gloved hands until a very uniform mixture is obtained. To this putty is added 8-10 grams of microspheres or powdered styrofoam. This is again kneaded with gloved hands until a uniform mixture is obtained. This explosive putty is then ready to use. It may be stored in a cool dry place. If after storage the putty hardens somewhat the addition of 2-3 grams acetone after kneading in will return the explosive to a very soft putty form.

------------
/ Survivor
Survivor@netlimit.com
------------

Dr-D
Frequent Poster
posted December 11, 1999 01:08 PM

I found a generic aluminum container marked toluene in my basement a while back. I don’t think naptha is as volatile as toluene. Toluene is a solvent like acetone if I remember right. Anybody ever try acetone?

Ve He MT
Frequent Poster
posted December 11, 1999 05:03 PM

It could be used, any volatile solvent could be used. Just think about how practical they are though. Cost is one thing to consider. If your supplier(s) for acetone charge you 10 bucks a litre, its time to go on to the next candidate. So on with each alternative. Then you need to think about how practical it would be in use. Will the solvent used eat through your plastic container? Will it evaporate far too quickly? etc..
naptha works just like fuel oil, its just as hard to detonate and it really doesn't make it anymore powerful. Use Toluene, it works. Has anyone tryed the plastic mentioned by Survivor?? Does it work well??

That plastic will work just fine.

the plastic survivor mentioned sounds promising but i dont like the idea of mixing smokeless powder and nitro-methane, for the simple reason that it goes hard.

In lowrys page it doesnt use styrofoam or smokeless powder, he just mixes nitromethane and ammonium nitrate. Would anyone know if that would still work and would it be easy to detonate?

It is for that reason that a) the explosive is used in the putty state and b) more solvent (fuel) is added if it starts to harden. Unlike AP or HMTD putty (which would be dried in order to be used), AN works best with a fuel added to it. AP and HMTD are high explosives with no need for any other chemical component. Besides, when you mix AN with a solvent it already has the tendency to lose the solvent (through evaporation) so what harm does adding NC to the explosive. It gives the explosive the ability to be molded around an object etc..

Besides, even on Lowry's website he describes a summarized version of the text Survivor posted here. That book in which Survivor got the information from is listed in the source as to where Lowry got the information from.

you will see Lowry used PURE nitromethane, and its for that reason the density did not have to be lowered using styrofoam.. Nitrocellulose would probably raise the density.. I think your best bet would be to use pure prilled AN with 35% fuel as is, and confined/buried if you want maximum sensitivity. As vehement said adding NC will make it a more practical explosive though..
Pryo Tek
Frequent Poster

whear the f**k did u get that?
NM is hard to find whear i live in OZ
what state do u live?
thanks

-------------
Great minds aren't made at school
They are born!

Ve He MT
Frequent Poster

The styrofoam microspheres are to increase detonation sensitivity by making small "air pockets". It is only textual information. Just because on a piece of paper it says you can find uranium in your pants doesn't mean there is any uranium in your pants...
Read more about someting before you say something, the fact that Lowry's instructions say to use pure nitromethane doesn't mean its as comon as water. It just means that those instructions call for using pure nitromethane. You can easily substitute the pure nitromethane by using a high percentage of nitromethane model fuel. Just about any combustable fuel/solvent will work. Remember AN has the ability to detonate without a fuel, alone. Getting smaller quantities (few hundred grams) to detonate is much more laborious, so people add sensitizers and fuels such as double base smokeless powder, nitromethane (nitromethane effectively is one of the best suited for that job, and that is why its most commonly called for).

Blaze
Frequent Poster

isn't it true that the AN sensitizes the NM as much as the NM sensitizes the AN... there fore the NM actually detonates?? hence the term binary explosive.. make sense?

Ho ju
Frequent Poster

assuming that is correct, does that also hold true for fuels such as toluene and kerosene?

-------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
Nitromethane: How do ya purify it? - The Explosives and Weapons Forum

**nbk2000**

**posted December 13, 1999 12:27 AM**

Nitromethane is itself an explosive, as long as it's been sensitized. Amines like ammonia and ammonium nitrate are used to sensitize NM. Toluene and kerosene don't have the same explosive properties since they don't have a nitro group in them like NITROMethane does.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

**nbk2000**

**posted December 13, 1999 02:59 AM**

Model race car fuel is usually made from nitromethane, castor oil, and methanol. You could distill off the methanol, which leaves the nitro and castor oil behind. Then use an appropriate solvent to dissolve one from the other. Which solvent to use, I'm not sure. Check the merck index. But you can use the nitro straight since the castor oil only makes up 1 - 2% of the total volume. With the methanol gone, you've got almost pure nitro.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000

**Igenx**

**posted December 13, 1999 09:08 PM**

Another source of nitromethane - high speed race bikes. The 600 to 1000 cc bikes use this stuff as fuel. It can be bought at the rallies where this type of racing is held. It might be available in Australia, I know it is available in the US. I only know that this stuff is available because I help publish a motorcycle magazine. Keep this under your hats. Don't discuss this outside this forum, I implore you. When info like this becomes common knolage, the supplies dry up.

**Igenx**

**posted December 13, 1999 09:15 PM**

This stuff is relatively pure, except for some alcohol intended to stabilize it. Don't know what percent of the total volume it is though, but I'm prettu sure the stuff is over 60% nitromethane.
Ve He MT

posted December 14, 1999 02:18 PM

 Granted AN+ NM is different then any other AN+ fuel explosive, but
the difference is negligible when used for "entertainment" puposes.

😊

(forgot to mention the cost effectiveness fator)

IP: Logged

darcey

posted December 15, 1999 06:42 PM

PEACE....

If you could find out Lowey's email you could most likely find find out
where to get some 100% nitromethane in australia. He gets it from
somewhere but fuck knows where that is.

i would give up on it if i was you, i have tryed and tryed to find this
shit and haven't had any luck. The only pace i could find it was from
a chem supplyer and it was a insane price ($133 for 500ml or
something like that, i can't think of the exact price). Have you tryed
the 35% nitro plastic yet??

IP: Logged

PEACE

posted December 16, 1999 03:16 AM

no i havent done it yet 😞

i havent looked for ammonium nitrate yet.
darcey, where do u buy yours from? and what's it called?

i think in australia its called "nitram" or "nitropril" or sumshit like
that......

in farm supply stores lowry reckons u he got proper explosive safety
fuse. im gonna try that out aswell...

IP: Logged
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Nitro Methane: How do ya purify it?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>darcey</strong></td>
<td>posted December 16, 1999 04:54 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
</tbody>
</table>

I don't think that you will ever get lowey's email. I have tried many times but it seems that he doesn't want to be contacted. As for the ammonium nitrate I buy 50kg sacks of Nitram from a farming supplier. If you are under the age of 18 or look young I would even try to buy this, they know why kids buy it and they will report you to the police. If you are young either get a older friend to get it for you (all dressed up like a farmer) or buy the ammonium nitrate cold packs. These are a huge rip off but it ammonium nitrate so you can really complain. A 50kg sack of nitram will cost about $37.95c Australian. Let me know about the fuse because I have been after some good quality fuse for ages. I had about 7 feet at one stage that I found in a friend's shed but haven't been able to get any since. I use to be able to get it from another friend whose dad worked from the government as a linesman. One day he came home with two 900 metre rolls of blasting fuse. I thought Christmas had came early. Sadly he got sick of having them around and burnt them! We had a big party at this friends house and we all though we where tripping out of our heads because of the shit the fire was doing. It was all of the fuse burning, throwing up sparks and green flames all over the shop. It was very cool to watch but a huge waste of fuse. Because of the government spending cuts he hasn't been able to get any since. So let me know if you get any. What state are you in?? Email me if you don't want to post it on the forum.

**IP:** Logged
just something else....

peace, don't go looking for ammonium nitrate called nitropril. It is the pure blasting grade ammonium nitrate and you will need a licence to buy it. If a kid comes in looking for a blasting grade ammonium nitrate they will put two and two together and you might get busted.

I'm sorry if your not a kid but it seems that the majority of people on this forum are young or in their teens.

---

PEACE
Frequent Poster

hey darcy its steve, remember i emailed ya about the green firecracker fuse?

im in NSW and im gettin an ID being made so im 18.

where the hell do u keep a 50kg sack of nitrate!!? heheh i would put it in my shed but its pretty fucken hot in australia this year?

if i get safety fuse i will tell ya where 2 get it. and by the way which farm supplier do ya get it from? i mean the only place i know of is a garden store.

and to get 35% nitromethane alls ya gotta do is get a car mag 'hot 4s' or sumshit and order thru them.

-PEACE

---

darcey
Frequent Poster

I thought your name was matt batty, i really confused now. I wouldn't go into any gardening shops and ask for nitram because they don't sell it and i got a very unwelcome vibe when i went are asked about it. Do you have any large farming stores like Websters or Roberts?? I get mine from websters but they are still act really weird around you when you buy it. I keep my sack of AM in my shed but i keep my good, ready to use stuff inside (this has had the coating removed).

Are you the fellow who was also asking about the hexie?? I send the money but it got sent back to me because i wrote the wrong address on the letter. I though you where in Melbourne?? I'm really confused. I'm sorry if i got you mixed up with someone else.
**darcie**  
Frequent Poster

are you sure you email me?? I just checked my mail and the only mail about fuse i go was from a Matt Batty who lives in Victoria and has a different email address to you. You sure you mailed me??

**Pyroboy**  
A New Voice

Hey! I'm Matt Batty. Please only call me Matt as I do NOT want to be fucked by cops. And Darcey if you payed $37.95c for your AN you got jebbed because I only payed $25 for mine (Nitram 50kg) and do you purify yours or use as is? And I just wanted to know what address you sent the money to?

**MATT**

**darcie**  
Frequent Poster

sorry about that matt. I usually purify my AN but i have used it just as it is and it works ok. As for the address, i got the post code wrong!! It got sent back to me two days after i sent it. Did you end up getting your fuse?? Have any luck with the hexie either??

**Belial**  
A New Voice

Hey Guys.
I live in Victoria.
I know were to Pure Nitromethane from.
Its $25 for 500ml. Its used as an additive for fuels like model engine fuel, so that if you want to add more nitromethane you buy the pure stuff and add it to already mixed fuels to make the mixture stronger.
Contact me on ICQ on 18999821 if you live in VICTORIA and are interested.

HEY MATT BATTY. I believe i know you. If you Have a sister called rachel or something i know you. Im dead sure i know you. Contact me. I live In Glady.

**Pyroboy**  
A New Voice

Oh my God! this is freaky. I do have a sister called Rachel, Belial whats your real name? I live right near Glady.
Where is the place?? Can you you give me the address?? I'm not on ICQ at the moment so could you please post the address up on the forum or email it to me??

thanks

Perhaps it would be better for you all to communicate with e-mail or over ICQ.

I know you are going to do that now regardless of this message, but just sommething to think about next time you want to ask someone something like, "do you have a sister named ".
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: potassium permanganate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pryo Tek</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted December 20, 1999 05:34 AM</td>
</tr>
<tr>
<td></td>
<td>Where can I get this shit?</td>
</tr>
<tr>
<td></td>
<td>what would it be under?</td>
</tr>
<tr>
<td></td>
<td>bullets what use are thease other that to fire?</td>
</tr>
<tr>
<td></td>
<td>is ther any thing i can do with a 303 cartage?</td>
</tr>
<tr>
<td></td>
<td>please help! 😊</td>
</tr>
<tr>
<td></td>
<td>thanks</td>
</tr>
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<td></td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>Great minds are’nt made at school</td>
</tr>
<tr>
<td></td>
<td>They are born!</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>posted December 20, 1999 06:43 AM</td>
</tr>
<tr>
<td></td>
<td>Try pharmacy, it's used in sanitizing, looks purple, aka &quot;purple salt&quot;.</td>
</tr>
<tr>
<td></td>
<td>you can use it to make fireworks, but not a good explosive material, yet you can still mix it with charcoal and make a bomb. It will make big sounds when &quot;in contact&quot; with H2O2 and burst oxygen, if you have 30% H2O2 it's worth an careful experiment.</td>
</tr>
<tr>
<td>Fire Knight</td>
<td></td>
</tr>
<tr>
<td>unregistered</td>
<td>posted December 20, 1999 11:31 AM</td>
</tr>
<tr>
<td></td>
<td>Potassium Permanganate is used in wastewater and might possibly be found at some sort of swimming pool supply store. Use it to make flash powder as listed in the Makeshift Arsenal. This also reacts violently with glycerine to produce a bright flash and some smoke as well. My chem teacher says you could probably find it in photography stores too.</td>
</tr>
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<thead>
<tr>
<th>User</th>
<th>Post Date</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>w a v e</td>
<td>posted December 20, 1999 12:55 PM</td>
<td>where i live you can get it as a snake bite treatment kit</td>
</tr>
</tbody>
</table>

I found a small 6oz bottle for $5 at Sears in the water softener section.

Don't know about those other sources...

To those who have seen it elsewhere, how much did it cost? Let's find the cheapest place.

---

All times are ET (US)
red p the eaze way! //\ stars to!

Pryo Tek
Frequent Poster

posted December 19, 1999 06:41 AM

ok i don't know if this is right or not.
The toy cap guns have red p in them right?
i can extract them by soking them in Actone/isprppy Alcohol?

Ok can i use them in star makeing?
if so how do i go about doing this?
all info would be woundfull 😊
thanks
pyrotek

Great minds are't made at school
They are born!

HMTD
Factory
Frequent Poster

posted December 19, 1999 07:12 AM

Red P don't dissolve in any liquids , sorry,
but you can wash away KClO3 and glue with hot water.

What is starmaking?

Ho ju
Frequent Poster

posted December 19, 1999 11:17 AM

i believe he is refering to round stars (or arial displays) i heard that you can
get red P but placing the strikers of match books in I. Alcohol and letting the
red P losen and then scraping it off. much more effective then getting them
from toy caps...it is a pain in the ass believe me 😊

------------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime
doesn't pay. So if you know to much you will go broke!!!
**Pryo Tek**

*Frequent Poster*

posted December 19, 1999 08:40 PM

ok thanks but how do i get it from strikeer pads the ones on match box right?

-------------------

Great minds are'nt made at school
They are born!

---

**Ve He MT**

*Frequent Poster*

posted December 20, 1999 07:00 PM

The rep is on the striker of the match box\book. (refer to post: [http://theforum.virtualave.com/ubb/Forum1/HTML/000288.html](http://theforum.virtualave.com/ubb/Forum1/HTML/000288.html)) IT IS NOT PURE. It contains some kind of glue or other type of binder. Given that there is an unknown chemical with it, it is not a good idea to fool around with.

You do not need red p to make stars. It is only a waste of red p(for what its worth, too dangerous to be useful). Make stars out of black powder and a little bit of extra charcoal. Much easier, much safer, much cheaper, and certainly will look much better in the sky.

---
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: sodium/potassium chlorate from welding electrodes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEACE</td>
<td>i read somewhere that welding electrodes contain sodium/potassium chlorate (not sure which) is this true? if it does contain one of these substances how do i go about <em>safely</em> extracting it? thanx</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>Hammer the rod and collect the crushed powder, but it won't have much in them, nor pure. There's a kind of firework, a silver rod that you hold one end of steel wire and light another end, then it gives sparks, you can crush that powder glued on the wire and use hot water to dissolve KCLO3, it's more pure.</td>
</tr>
<tr>
<td>PEACE</td>
<td>so if i do get the powder from a welding rod, would it be useful at all to make an explosive from it? and also if i made a mixture of this powder and vaseline, would it explode if a blasting cap is used? thanx</td>
</tr>
<tr>
<td>Username</td>
<td>Post Date</td>
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<tr>
<td>------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>December 14, 1999</td>
</tr>
<tr>
<td>Pyroboy</td>
<td>December 16, 1999</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>December 17, 1999</td>
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<tr>
<td>HMTD Factory</td>
<td>December 17, 1999</td>
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<tr>
<td>Ve He MT</td>
<td>December 17, 1999</td>
</tr>
<tr>
<td>Username</td>
<td>Date and Time</td>
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</tr>
<tr>
<td>Ho ju</td>
<td>December 17, 1999 10:00 PM</td>
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<tr>
<td>dlwdaw</td>
<td>December 17, 1999 10:35 PM</td>
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<td></td>
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<tr>
<td>Ho ju</td>
<td>December 18, 1999 12:54 AM</td>
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<td></td>
<td></td>
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<tr>
<td>dacey</td>
<td>December 18, 1999 03:05 AM</td>
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<tr>
<th>User</th>
<th>Date/Time</th>
<th>Text</th>
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</thead>
</table>
| Ho ju       | December 18, 1999 08:23 PM | that and watching them burn... 😊😊😊  
- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!! |
| Ve He MT    | December 20, 1999 07:07 PM | Yeaa, I was refering to sparklers that burn with a certain colour. In Canada there are two firework manufacturers, and none of them make coloured sparklers. In the USA, it would be completely relative to where you are. Some places(different states etc..) may have them, some may not. |

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: to NBK</th>
</tr>
</thead>
<tbody>
<tr>
<td>wave</td>
<td>posted December 18, 1999 03:29 AM</td>
</tr>
</tbody>
</table>
| Frequent Poster | on your web site  
|                 | by the way it is kick ass  
|                 | but anyway on your web site you tell how to make RDX  
|                 | is it really that simple  
|                 | or what is the chances that it will blow up in my face when making it  
|                 | is it safer then making AP  
|                 | also how you ever made it before |
| Pyroboy         | posted December 18, 1999 03:51 AM |
| A New Voice     | LEARN HOW TO FU**ING SPELL! almost everything you post on here  
|                 | wave is spelt wrong!! |
| nbk2000         | posted December 18, 1999 04:13 AM |
| Frequent Poster | I've never personally made it by the acetic anhydride method (I'm assuming that's the reaction your referring to). I've read about the process in government documents and they match with the KIPE#1 process so it can't be too dangerous. Of course, always use proper precautions with any chemical reaction, that means gloves, apron, goggles, ventilation, etc. And it should be about the same as AP. Just don't breath the fumes or come in contact with the chemicals (never a good idea).  
|                 | And Pyroboy, the "a" in almost needs to be capitalized since it's the beginning of a sentence. Everybody makes mistakes, all I asked was that people try to improve their spelling. Maybe WAVE doesn't speak english as his (her) primary language. But WAVE, you do need to work on your grammer (how a sentence is put together), your spelling was alright.  
|                 | "The knowledge that they fear is a weapon to be used against them."  
|                 | www.50megs.com/nbk2000 |
Pyroboy
A New Voice

posted December 18, 1999 08:25 AM

Hehehe NBK your too nice, but an a is nothing.

IP: Logged

wave
Frequent Poster

posted December 18, 1999 02:00 PM

Well i do see my miss spelling i geuss that when iam typeing i dont see what iam miss spelling because iam going to fast but i will try to slow down and go over what i put. Thanks NBK

IP: Logged

Ve He MT
Frequent Poster

posted December 20, 1999 07:16 PM

quote:

i will try to slow down and go over what i put

Everybody should pay attention to that before someone posts some dangerous information all caused by a typo or grammatical error.

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Powered by: Ultimate Bulletin Board, Version 5.38
Just say that i wanted to shatter a steel cage around a coke machine. The cage has two 2 inch hinges and a heavy duty lock. Theses are bolted into steel that is about 10mm thick and has no signs of age or weakness.

With this being theoretical and all what type of explosive would people recommend? Keeping in mind that i only have limited access to ammonium nitrate but can get smokeless powder. I was theoretically thinking of using a frame charge. What do you think?? ANFO?? but its hard to detonate, i don't have any nitomethane so that means no ANNM and i don't know if i can get any tolune. What would everyone else do? I could use tools but i would theoretically be there all night.

HMTD Factory Frequent Poster posted December 15, 1999 07:11 AM

destroy the steel cage completely or destroy an important portion? Lockpicking possible?

You are not helping people get out of jail are ya =]

Ho ju Frequent Poster posted December 15, 1999 03:13 PM

instead of shattering the steel i would suggest using a shape charge to cut right through the motherfuckers. I do not know if the Smokless powder (even used in a shape charge) would do the trick though? anyone else have any thougths on that?

***************

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

VeHeMT Frequent Poster posted December 15, 1999 04:01 PM

What about thermite?

HMTD Factory Frequent Poster posted December 15, 1999 08:34 PM

thermite might be the go, thanks for that. Would a 30gm charge of double base smokeless powder detonated with a .303 shell fill of HTMD be enough to blow the lock off?? I was thinking that that HTMD would detonate the nitroglycerine content in the double base smokeless powder but would it have enough power to blow the lock off??

im not trying to blow the shit out of the cage because if i did i would most likely fuck up the coke machine as well. I just want to blow the door of the cage off some how. The lock can not be picked mainly because i have no picking tools or experience in that field.

Ho ju: Do you know how to make shaped charges?? Do you need to make special cases?? I have only messed with shaped charges once and they didn't work. What would be the best explosive for these shaped charges?

Ho ju Frequent Poster posted December 15, 1999 08:12 PM

i have little to know experience with shaped charges. The theory behind them (it seems trivial i know) is that the blast will flow to the area with the least resistance. so if you use a powerful charge encased in steel (enclosed accept for one end) ALL of the blast is directed onto one small area thus magnifying its power. and if the magnified power is directed onto the lock, the lock just my be cut or shatter. It is going to have to bea trial and error thing i guess, unless someone else can give you some design plans (i would make the shaped charge out of AP or HMTD. that might just work)

***************

- Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
Actually, when talking about shape charges - three small things: Try to make a wedge in the explosive, so that it would look like a M. When you place the explosive, you place it with the wedge towards the target. What happens (is supposed to...) is that all of the force from the expanding gases meet at one line along the middle, and continue on out towards whatever target there would be. Second, if there is a cage - just roll a thin cable-like thing of explosive, and place in a circle around the bar you want cut off. That should act like a shape charge. Third - if you try to carve some kind of letter or figure into one side of a block of explosive, and place this side against a metal thingie - not enough to blow it up completely that is - you should be able to see that the explosion was harder on the metal where you carved something in - it has the effect of a shape charge! just very small!

-------------
huba huba hopp - tempo tabu!

---

SuperJonas A New Voice posted December 15, 1999 09:26 PM

oh yeh, one more thing:
what a nice forum! never seen this before! love it!

-------------
huba huba hopp - tempo tabu!

---

Ho ju Frequent Poster posted December 15, 1999 12:01 AM

Al Koholic explained Shaped charges to me and they are so easy to use. here is what he said:
the point of the V actually helps to push the middle of the V inward towards the object and the wide parts focus the middle inward to a line that would divide the V in half vertically so all the power gets pressed on a point in between the wide part of the V.

the shaped charge is set up like this I> ( so the point of the cone (or V) is away from the object) the container matters little it is the actual explosive that does the work.

-------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

Ho ju Frequent Poster posted December 16, 1999 12:06 AM

to clear things up you want the shaped charge in the shape of an almost hollow cone, with the wide open part towards the object that is being cut. you can use any container because the charge itself does all the work. (ie styrofoam, plastic, copper)

-------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!

---

darcey Frequent Poster posted December 16, 1999 01:15 AM

thanks alot, that shaped charge info is very helpful. About how much explosive should you use?? Or is it just a trial and error kind of thing

---

darcey Frequent Poster posted December 16, 1999 01:25 AM

Ho ju:
you said you could use any hollow cone but does it have to be sealed? eg

-------------
top

-------------
bottom

so you have the cone full of explosive but do you need to seal the top of the cone??

---

darcey Frequent Poster posted December 16, 1999 01:25 AM

fuck!! the diagram didn't work!
A 1/2" diameter copper pipe cut in half lengthwise makes an excellent liner for shaped charges. AP putty would work I'd imagine, but a NC plastique would be better. At least a 1/2" thick layer of putty would be needed to ensure sufficient explosive power. Aluminum will also work. Plastic would add nothing to the charges penetrating power.

An important detail that has been left out in the discussions about shaped charges I've seen here so far is the need for stand-off. That is the distance of the charge from the target. The liner has to have some distance from the target in order to completely invert into a proper jet. A minimum distance is 1.5 x the height of the cone (or angle) so with the pipe at .5" it would be .5 x 1.5 = .75" from the target. And with a linear charge, it needs to be primed on one end dead center over the center of the liner. You can use styrofoam board as a standoff since it's 99% air and won't affect the jet formation.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000]

---

darcey
Post: December 16, 1999 03:22 AM

Thanks for that nbk200, it was a great help. I just want to ask a few more questions.

NBK2000:
when you said that 1/2" copper pipe split down the middle is excellent do you mean just to hack saw it down the middle so i have two semi circles? Do i just then crimp the ends down so i have a semi circle piece of pipe with enclosed ends? You talk about NC plastique, what is this?? Just a sensitive explosive like HTDM with smokeless powder in a putty form?? I don't make AP anymore mainly because of the time it takes and the amount of hydrogen peroxide it uses. Could I use HTDM??

If the liner charge didn't work would the 30mg smokeless powder charge detonated with a .303 shell full of HTDM be enough to crack or shatter the lock??

---

nbk2000
Post: December 16, 1999 10:49 AM

Here's a diagram to illustrate what I said.

Don't fold the ends or anything. Just use the pipe as is after you've cut it. NC plastique is smokeless powder that's been converted into a plastic form for explosive use. Go here for instructions on making it. Look in the "Gun Cotton" section.

As for the bulk charge of NC blowing the lock, that all depends on the locks construction and material, the placement of the charge, and all sorts of other variables. Usually, if you can get the explosive into the lock, then blowing it up would be easy. If you have to place it outside, then that's more difficult. What kind of lock is it?

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000]

---

nbk2000
Post: December 16, 1999 10:51 AM

Apparently my attempt at href'ing the link didn't work. Go to [http://www.50megs.com/nbk2000/weaponsandtactics/explosivesindex.html](http://www.50megs.com/nbk2000/weaponsandtactics/explosivesindex.html) for instructions on making plastique from smokeless powder.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000]
Also, there's a link to a very through (and technical) PDF file on linear shaped charges (with pictures). Right click on this url (http://www.prod.sandia.gov/cgi-bin/techlib/access-control.pl/1996/962031.pdf) and choose "Save target as". It's a 10 meg download so it will take a while, but it will tell you just about everything you could want about designing LSC's.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

---

darcey, what kind of peroxide do you use?
I make AP with 27% peroxide, and use the same amount as Acetone (10ml he2o2, 10ml acetone, and 2-3ml HCl) and I get everything in about an hour, hmtd takes about 2 days....

...always look on the positive side of things, blow things up not down

|-- Ragnar Benson

---

dldlaw u said AP takes an hour to fully precipitate????

shit i use 6% peroxide and it takes me 3 days!!!! BUT this is the amounts of chemicals i use:

Hydrochloric Acid: 50 ml
Acetone: 150 ml
6% Peroxide: 200 ml

get lots of AP but it comes out yellow.

how much AP do u get?

---

i made AP only once and wasn't impressed at all, think i will stick to HTDM with it being easier to make and quicker also.

---

why does your HTDM take 3 days?? mine takes 30mins. i use the 1:2:1 ratio and it works just fine. 1 part hexie, 2 parts peroxide, 1 part HCl. This is all by volume eg tablespoons. Have a look at the post AP vs HTDM, i have posted a detailed 'how to make HTDM' there.

i made AP only once and wasn't impressed at all, think i will stick to HTDM with it being easier to make and quicker also.

---

sorry about these double post but i forgot to thank nbk2000 for the file and info on liner charges. I'm downloading it at the moment and will have a good read when it finished.

---

Double base smokeless powder, dissolved in acetone until it forms a putty, when dried out makes a very brisant ex, that can be made to go with a #6 cap. If probably would work for shaped charges. It can be molded while putty like, and it shrinks some as it dries and the acetone leaves it. Also, it can be kept in the putty stage and the acetone will go as a fuel for the mix is oxygen rich. This allows forming it intimately with material and with no air between it and the material, the material sees the full 3 million psi pressure wave of the stuff, without any softening of the blow by a bubble of air between. Bulleseye smokeless dissolves fastest because of its thin flakes, but any double base will do just as well. Dissolving and kneading into putty removes the inhibitor coating on the grains which is there to allow it to burn gradually instead of clicking off.

However the most energy efficient way to do what you mention is use a hack saw with a good quality blade, and a tad of oil on the teeth to keep from scraching them and taking their hardness out. Good blades won't soften this way but many will. Also don't saw too fast, give the teeth time to cool between strokes. A stroke every 2 seconds would be about right. If you oil the teeth now and then you will see smoke arise which means the tooth temp at its edge is around 500 F. which is at the lower border of tempering hardness out of carbon steels. (A shiney spot of carbon steel on the blade will turn blue at about 600 F, which removes enough hardness to make good springs, and then turn yellow which is softer, then brown, which has lost almost all its hardness, and when it turns grey again its fully soft.

You can use heat to first temper hardened carbon steels that you want to cut, and save yourself a quar of elbow grease. Can't soften some non carbon steels, and stainless tends to get hard from being worked, so it can get harder from just sawing on it, or trying to drill it. For that you have to have enough horsepower to ram the drill in and never stop or it will get so hard you can't do anything with it. For cutting if it hardens you may have to grind out the hard to continue sawing.

Also consider a good chain and a hydraulic jack, to apply more force than things can resist. Its also quiet. You can demolish a concrete building by a 6 ton hydraulic jack by just pushing on a 4x4 wood post against opposite walls with the jack at one end, they will quietly pop and crackle and bulge out and fall apart. Do get outside before you take down the last supporting walls however.

A bumper jack and a chain wrapped around a pole will jack it out of the ground, and after a few jacks you can have about 4 or 5 ft out, and then it ought fall over or swing by any wires hooked to it.

Explosives are not always the best way to get work done. Besides unless you own that thing you speak of, the noise would wake the dead, and also don't forget sundance's famous words "Too much powder", as they tried to blow a bank safe in a Mexican town. If I'm not mixing up the movies, they blew up all the money, and disintegrated the building into a scorched spot, and woke the whole county. But then that was early in their career and they were just learning the trade.

If you are in the USA and that thing is not yours beware the new federal terrorism laws that make it a 40 year (no parole) offense to use expl or firearms to destroy property. Feds are so hyper now about such stuff they tend to go insane when an event happens.

Doing things a tad differently can reduce (or increase) any possible repercussions drastically.

thanks for the info, im not in the US so i don't have to worry about the feds. Noise won't be much of a problem either. the place where the coke machine is is fairly remote during the night plus we have planned to do it on New Years Eve just as the fireworks are going off. These fuckers are quite loud and any other explosion will mostly likely be thought to be fireworks.

Here's a link to a patent that perfectly illustrates what I was describing. Go to http://164.195.100.11/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFP&sp=1&us=/netacgi/search-bool.htm&rs=1&f= G&col=50&col=AND&d=pai&l=4418622_WKU.AOS=PN/4418622&RS=PN/4418622

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
Here's a picture showing a shaped-charge in mid-explosion.

Figure 7. A shaped charge speeds to the right at 8 kilometers per second during a hydrodynamic test, which illustrates the fluid-like behavior of metals when they are subjected to extremely high pressures.

As you can see, the jet doesn’t completely form until it’s quite a ways away from the base of the charge. This illustrates why you need to add standoff to your charges. I’ll add a freeze frame picture series of a shaped-charge showing the formation of the jet as it happens later tonight.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000
Well, it's later tonight (HAHA!). This picture shows a shaped-charge forming a jet in 10 millionths of a second!

You can't see it in the picture, but the metal is white hot, molten metal. The almost instantaneous inversion of the cone causes it to liquefy from frictional heating. That plus the speed which the jet is being projected at (mass x velocity = energy (or force)) causes it to literally push the target out of its way.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000)

Those are some very interesting images.

Here's instructions from the "Black Book" series. I'm HTMLing it slowly.

Linear Shaped Charge Sec. 2, No. 10

This shaped charge made from construction materials will cut through nearly 3 inches of armor depending upon the liner used. (see table)

Materials

---

Standard structural angle or pipe (see table)  
wood or cardboard container  
hacksaw (only is pipe is used)  
wooden rod, .25 in. in diameter  
explosive  
blasting cap  
tape
<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Liner Size</th>
<th>Stand Off (inches)</th>
<th>Penetration (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angle</td>
<td>Steel</td>
<td>3&quot; x 3&quot; Legs .25&quot; Web</td>
<td>2</td>
<td>2.75</td>
</tr>
<tr>
<td>Angle</td>
<td>Aluminum</td>
<td>2&quot; x 2&quot; Legs 3/16&quot; Web</td>
<td>5.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Pipe Half</td>
<td>Aluminum</td>
<td>2&quot; Diameter</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pipe Half</td>
<td>Copper</td>
<td>2&quot; Diameter</td>
<td>1</td>
<td>1.75</td>
</tr>
</tbody>
</table>

Procedure
-----------
Note: These were the only linear shaped charges of this type that were found to be more efficient than the ribbon charge.

1. If pipe is used:
   A. Place the pipe in the vise and cut pipe in half lengthwise. Remove the pipe half sections from the vise.
   B. Discard one of the pipe half sections, or save for another charge.
2. Place angle or pipe half section with open end face down on a flat surface.
3. Make container from any material available. The container must be as wide as the angle or pipe half section, twice as high, and as long as the desired cut to be made with the charge.
4. Place container over the liner (angle or pipe half section) and tape liner to container.
5. If plastic explosive is used, fill the container with the explosive using small quantities, and tamp with wooden rod or stick.
6. Cut wooden rod to lengths 2 inches longer than the standoff length (see table). Position the
rods at the corners of the explosive filled container and hold in place with tape.

Note: The position of the rods on the container must conform to standoff and penetration dimensions given in the table.

7. Make a hole for blasting cap in the side of the container .5 in. above the liner and centered with the wooden rod.

Note: Do not place blasting cap inside Linear Shaped Charge until ready to detonate.

How to Use

----------

1. Place blasting cap into hole on the side of the container. If a non-electric cap is used, be sure cap is crimped around fuse and fuse is long enough.

2. Place (tape if necessary) the LSC on the target so that nothing is between base of charge and target.

3. If electric cap is used, connect cap wires to firing circuit.

=============================Hope this is helpful. Sorry about the huge gap in the post. I’ve tried twice to edit it out, but no dice. It must be the table.

----------

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Precision Linear Shaped Charge Analyses for Severance of Metals

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PRECISION LINEAR SHAPED CHARGE ANALYSES FOR SEVERANCE OF METALS

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Abstract

The Precision Linear Shaped Charge (PLSC) design concept involves the independent fabrication and assembly of the liner (wedge of PLSC), the tamper/confinement, and explosive. The liner is the most important part of a linear shaped charge (LSC) and should be fabricated by a more quality controlled, precise process than the tamper material. Also, this concept allows the liner material to be different from the tamper material. The explosive can be loaded between the liner and tamper as the last step in the assembly process rather than the first step as in conventional LSC designs. PLSC designs have been shown to produce increased jet penetrations in given targets, more reproducible jet penetration, and more efficient explosive cross-section geometries using a minimum amount of explosive. The Linear Explosive Shaped Charge Analysis (LESCA) code developed at Sandia National Laboratories has been used to assist in the design of PLSCs. LESCA predictions for PLSC jet tip velocities, jet-target impact angles, and jet penetration in aluminum and steel targets are compared to measured data. The advantages of PLSC over conventional LSC are presented.

As an example problem, the LESCA code was used to analytically develop a conceptual design for a PLSC component to sever a three-inch thick 1018 steel plate at a water depth of 500 feet (15 atmospheres).
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PRECISION LINEAR SHAPED CHARGE ANALYSES FOR SEVERANCE OF METALS

Introduction

Sandia National Laboratories (SNL) is involved in the design of Linear Shaped Charges (LSC) varying in size from as small as 10 to larger than 11,000 grains/foot (gr/ft). These LSC components are required to perform such functions as rocket stage separation, parachute deployment, parachute system release, flight termination, system destruct, bridge destruction, severance of thick metallic barriers and system flight abort or disablement. Most of the LSC components for these systems require precise and reproducible jet penetration using the minimum explosive and component weights.

Sandia National Laboratories has conducted research and development work to design Precision Linear Shaped Charges (PLSC). The sweeping detonation and three-dimensional collapse process of an LSC is a complex phenomenon. The Linear Shaped Explosive Charge Analysis (LESCA) code was developed at SNL to assist in the design of PLSC components. Analytical output from the LESCA code is presented and compared to experimental data for various LSC designs in the 16 to 5000 gr/ft explosive loading range. The LESCA code models the motion of the LSC liner elements due to explosive loading, jet and slug formation, jet breakup, and target penetration through application of a series of analytical approximations. The structure of the code is intended to allow flexibility in LSC design, target configurations, and in modeling techniques. The analytical and experimental data presented include LSC jet penetration in aluminum and steel targets as a function of standoff, jet tip velocities, and jet-target impact angles.

As an example problem, the LESCA code was used to analytically develop a conceptual design for a PLSC component to sever a three-inch thick 1018 steel plate at a water depth of 500 feet (15 atmospheres).

General Linear Shaped Charge

The parameters or variables for a general linear shaped charge cross section are illustrated in Figure 1. The large number of variables defining an LSC cross-section geometry makes the design of "the" optimum LSC a very difficult task primarily because it is not obvious as to which variables to initially hold constant in any given parametric study. Therefore, the scaling of LSCs is not a simple task. The larger core explosive loading (gr/ft) of similar conventional LSCs from the same manufacturer do not necessarily produce deeper jet penetrations in a given target. As shown in Figure 1, the LSC design depends on many variables other than just total explosive weight. The generic operational characteristics of an LSC are shown in Figure 2. For
conventional off-the-shelf LSCs, a metal tube or sheath containing explosive is swage-formed so that a wedge or cavity is created on one side. The LSC is typically point- or end-initiated and a detonation wave propagates along the longitudinal axis. The wedge collapses on itself and forms a high velocity sheet of jet particles. In general, because of the sweeping (propagating direction is 90 degrees from the desired jet cutting direction) detonation wave, the jet particles are not projected perpendicular to the original direction of the liner nor is the particle velocity perpendicular to the jet front (the jet angle relative to the target will be illustrated in later sections).

As illustrated in Figure 2(b), the LSC liner collapse produces two molten metal projectiles or jets. The leading, relatively high velocity (0.3 - 0.5 cm/us) main jet produces most of the jet penetration into the target. The slower (0.1 - 0.15 cm/us) rear jet or slug is sometimes found embedded in the cavity generated in the target by the main jet. Total severance of a finite thickness target can be a result from both the penetration of the main jet and the fracture of the remaining target thickness. The fracture portion of the severance thickness usually varies and can be as much as 50% of the thickness depending on the target strength parameters.

### Conventional Linear Shaped Charge

Typically, for more than 50 years, conventional LSCs have been fabricated by loading a cylindrical tube with granular explosives, and then roll- or swage-forming the loaded tube to the familiar chevron configuration illustrated in Figure 3.

Some of the disadvantages of conventional LSC designs are as follows:

1. Nonsymmetrical cross-section geometries,
2. Nonuniform explosive density (neither within a plane at a given distance or along the length),
3. Nonoptimized explosive and sheath cross-section geometries,
4. Nonreproducible jet penetrations in target materials, and
5. Historically designed for nonprecise jet cutting.

Typical explosive and sheath (liner and tamper) cross-section geometries of a conventional 25 gr/ft, aluminum sheathed LSC loaded with HNS II explosive are shown in Figure 4 for polished and magnified (20X) sections from the same lot and a couple of feet apart. Conventional LSC disadvantages 1 - 3 listed above are very obvious in Figure 4. Figure 5 illustrates the test-to-test variations in jet penetration of an aluminum target for the 25 gr/ft conventional LSC shown in Figure 4. The reproducibility of this LSC is plus or minus 39%.
Precision Linear Shaped Charges (PLSC)

For a PLSC, the liner, explosive, and tamper materials can be assembled as illustrated in Figure 6. The liner, tamper, and explosive are manufactured independently to allow the required control of fabrication methods which result in a more precise component. The quality control of the liner is most important in the performance of LSC devices.

An extruded, machined, buttered, or cast explosive is loaded or assembled between the liner and tamper components after these other two components are fabricated. The explosive can be loaded using single or multiple extrusions, automated continuous feed injection techniques, or by a "buttering" manual technique, if necessary. Assembly aids, such as the use of vacuum, are also useful.

The LESCA code has been used to improve the PLSC parameters. The explosive charge to liner mass ratio can be designed to optimize the transfer of energy from the detonation wave through the liner to the high-velocity jet. The explosive charge to tamper mass ratio can be designed to optimize the tamper material and thickness. The maximum tamper thickness is defined as that thickness beyond which no additional gain in the liner collapse velocity is obtained. The tamper can be made of a different material than that selected for the liner in order to:

1. Fit different configurations,
2. Allow for explosive loading (buttering, etc.),
3. Allow selection of tamping characteristics in material,
4. Allow for built-in shock mitigation properties, and
5. Allow for a built-in standoff housing free of foreign materials and water which degrade jet formation.

Linear Explosive Shaped Charge Analysis (LESCA) Code

The original Linear Shaped Charge Analysis Program (LSCAP) was renamed the Linear Explosive Shaped Charge Analysis (LESCA) code. Therefore, throughout this report, LSCAP and LESCA code modeling, simulation, and predictions are interchangeable. The renaming of the code was necessary because of confusion with the Shaped Charge Analysis Program (SCAP) also developed at Sandia for the design of conical shaped charges.

The modeling capabilities of the LESCA code include:

1. Sweeping/tangential detonation propagation,
2. Jet-target impact angles,
3. Liner acceleration and velocity,
4. Jet formation process,
5. Jet penetration process including layered targets,
6. Jet breakup stress model, and
7. Target strength modeling.

The code is inexpensive relative to hydrocodes, can be easily used to conduct parametric studies, and is interactive (user friendly). The LESCA modeling of half of an LSC cross section (symmetry is assumed) is illustrated in Figure 7. Figure 8 shows sample LESCA output illustrating an LSC with a variable standoff to an aluminum target, sweeping detonation, a jet front envelope of 26.7 degrees, jet particle path relative to the target, and a comparison of the predicted and experimental target-jet penetration at 8 and 24 microseconds, respectively. The data of Figure 8 illustrate the code ability to predict the jet particle path relative to the target surface.

The measured jet tip envelope angle, \( q \) (defined in Figure 8), and jet particle velocity vector angle, \( a \) (defined in Figure 8), are shown in Figure 9 for two different LSCs. Measured data from Cordin rotating mirror camera film records were used in the angle comparisons with LSCAP (LESCA) code predictions listed in Table I.

Assuming a symmetrical liner collapse process, typical LESCA code graphical representations are shown in Figure 10 for two different LSCs. The LSC jet, slug, liner, tamper, and detonation product gases are shown in Figure 10.

LESCA code predicted jet penetration versus standoff data are shown in Figure 11 for configurations with the detonator at the minimum versus maximum standoff end of the LSC, as illustrated in the top half of Figure 11. Experimental jet penetration versus LSC standoff from the target data are also compared to the LESCA code predictions in Figure 11.

**Aluminum Targets**

This section includes PLSC design configurations and LESCA code predicted versus measured jet penetrations into aluminum targets versus standoff data.

"Flange" Liner Configuration PLSC

The "flange" type PSLC design shown in Figure 12 was designed to allow the extrusion of the LX-13 explosive from one end of the liner and tamper assembly. The length that can be extruded varies with the area or size of cavity between the liner and the tamper materials.

**25 gr/ft PLSC**

The LESCA code jet penetration versus standoff data are compared to measured data in Figure 13 for the conventional, 25 gr/ft, HNS explosive, aluminum liner, aluminum tamper LSC
cross-section geometry shown in the figure. A similar PLSC was designed to compare jet penetration performance with the conventional LSC shown in Figure 13. Aluminum liner and tamper materials were used. The liner apex angle was the same as the conventional LSC (90 degrees). The explosive was LX-13 for the PLSC and HNS II for the conventional LSC. The LX-13 and HNS II explosive metal driving ability is about the same. The measured jet penetration into an aluminum 6061-T6 target versus standoff data are compared in Figure 14. The PLSC maximum jet penetration was 40% greater than for the conventional LSC.

A parametric study was conducted incorporating the following variables into the 25 gr/ft, LX-13 explosive, flange PLSC designs similar to Figure 12:

1. Explosives
   a. LX-13/XTX-8003/PBXN-301

2. Liner materials
   a. Copper
   b. Aluminum
   c. Nickel

3. Tamper/confinement material
   a. Aluminum

4. PLSC Geometry
   a. Liner apex angles (\( \beta \)): 70, 90 and 105 degrees
   b. Liner thicknesses (t): .004, and .010 inches

The PLSC materials, liner thickness (t), and apex angles (\( \beta \)) were varied as listed in Table I. The PLSC jet tip velocity (\( V_j \)), jet envelope angle (\( \phi \)), jet-target impact angle (\( \alpha \)), jet penetration into an aluminum 6061-T6 target (P), and optimum standoff (S.O.) are also listed in Table I. The LESCA predicted data are compared to the experimental measured values for most of the parameters. The effect on jet penetration versus standoff due to variations in some of the PLSC cross-section parameters were published in Reference 1.

**65 gr/ft PLSC7**

The 65 gr/ft "flange" liner configuration PLSC7 cross-section geometry is shown in Figure 15. The jet penetration into an aluminum (6061-T6) target versus standoff data predicted by the LESCA code are compared to experimental data in Figure 16. The PLSC7 configuration includes a 0.012 inch thick copper liner, LX-13 explosive, and an aluminum tamper.
"W" Liner Configuration PLSC

20 gr/ft PLSC5
The "W" liner configuration PLSC design, cross-section geometry shown in Figure 17 was designed to allow the explosive to be loaded using an automated feed injection technique or manually loaded in the liner in a buttering technique. These loading techniques are required for relatively small PLSC cross sections where long segments are desired. The 20 gr/ft PLSC5, LESC code predicted, jet penetration versus standoff data are compared to measured data in Figure 17. The PLSC5 configuration includes a 0.008 inch thick copper liner, LX-13 explosive, and aluminum tamper. The apex angle was 75 degrees.

30 gr/ft PLSC6
The "W" liner configuration design, 30 gr/ft PLSC6 cross-section geometry, and copper liner actual cross-section geometry are shown in Figure 18. The LESC-code-predicted jet penetration into an aluminum 6061-T6 target versus standoff data are compared to measured data in Figure 18. The PLSC6 configuration includes a 0.008 inch thick copper liner, LX-13 explosive, an aluminum tamper, and a 77 degree liner apex angle.

The test-to-test reproducibility for the PLSC6 design is illustrated in Figure 19. The measured jet penetration versus standoff data are compared for two different tests with a variable standoff LSC versus target configuration as illustrated in Figures 8 and 11. The LSC to large standoff varied from zero at one end to 0.225 inches as the other end. The measured jet penetration versus distance along the target data are shown in Figure 20 for two different tests and for a constant standoff (between the LSC and target) of 0.100 inches. For either variable (Figure 19) or constant (Figure 20) standoff LSC-target configurations, the test to test reproducibility of the jet penetration is very good.

5,000 gr/ft PBXN-301 Explosive/PLSC
Previously, the largest (5,000 gr/ft) PLSC design cross-section configuration is shown in Figure-21. This is a copper, W liner configuration with a copper tamper housing crimped around the liner after the explosive was loaded. This PLSC configuration includes a 0.067 inch thick copper liner, PBXN-301 explosive, a copper tamper, and a 76 degree liner apex angle.

The PLSC and aluminum target test configuration is shown in Figure 22. The minimum PLSC standoff was 1.0 inches and the maximum standoff was 2.0 inches as shown in Figure 22. The target dimensions were 6 x 6 x 12 inches. The detonator was located at the maximum standoff end. The LESC-code-predicted jet penetration into an aluminum 6061-T6 target versus standoff data are compared to measured data in Figures 23 and 24. Measured data for untreated and for annealed (1300 degrees F), air quenched copper liners are compared in Figures 23 and 24. Post-test photographs of the aluminum targets are shown in Figures 25 (side view of half of target) and 26 (top view of both halves of target) for test number 3 (annealed liner). Post-test photographs of the aluminum targets are shown in Figures 27 (side view of half of target) and 28 (top view of both halves of target) for test number 5 (untreated liner).
Steel Targets

This section includes linear shaped charge design configurations and LESCA code predicted versus measured jet penetrations into mild steel targets versus standoff data. The modeling/simulation of the LESCA code were validated using measured jet penetrations in mild steel targets from data generated at Sandia for 600, 850, 1440, and 2000 gr/ft LSCs.

Conventional LSCs

The cross-section geometries for the 600, 1440, and 2000 gr/ft conventional LSCs are shown in Figures 29 through 31, respectively. These LSCs contain copper sheaths (liner and tamper housing). These LSCs include RDX explosive and total widths ranging from 1.02 to 1.15 inches.

The LESCA-code-predicted jet penetration into mild steel targets versus standoff data are compared to measured data in Figures 32 through 34. Post-test photographs of a typical steel target are shown in Figures 35 (side view of half of target), 36 (edge view), and 37 (top view of both halves of target).

850 gr/ft PLSC

The 850 gr/ft PLSC configuration is shown in Figure 38. This PLSC includes a 0.067 inch thick copper liner, a polyethylene tamper housing, and Octol explosive as shown in Figure 38. The LESCA-code-predicted jet penetration into a mild steel target versus standoff data are compared to measured data in Figure 39.

Example Problem

General

As an example problem, the LESCA code was used to analytically develop a conceptual design for a PLSC component to sever a three-inch thick 1018 steel plate at a water depth of 500 feet (15 atmospheres). The problem configuration is shown in Figure 40. The practical application of such a problem was assumed to be similar to what might be required to scrap or salvage the steel from a sunken ship. Therefore, the explosive charge could be lowered from a ship using a spooled cable on a jib crane. Divers could place the detonator lines and PLSC on the plate to be severed. Two detonators could be used for higher reliability and redundancy. The detonator and PLSC would be installed inside a pressure vessel or housing to withstand the 15 atmospheres (220.5 psia) external pressure. The required PLSC standoff (to allow the jet to form) from the target would be built into the pressure vessel housing with a minimum material thickness for the jet to penetrate before impacting the steel target.
LESCA Code Modeling/Simulation

The assumption was made that there are no constraints or limitations in the following:

1. PLSC size/geometry,
2. Explosive type,
3. Liner material,
4. Tamper/confineent material,
5. PLSC to steel target standoff,
6. Explosive weight, and
7. Total component weight.

PLSC Liner Material
The liner material is usually chosen from as high a density as the chosen explosive can accelerate efficiently and of a very ductile material. The higher densities produce the deeper jet penetration in a given target material. The higher ductility allows the jet to stretch to a longer length before breakup and this also produces deeper penetrations. Economics and practicability are factors to be considered in the liner material selection. Obviously, gold and platinum could be considered if only a couple of sets of hardware are required. Depleted uranium and lead are environmentally not acceptable. Tantalum and copper are the mostly likely candidates with all things considered. Copper was selected for this study simply based on costs and workability. Shear formed (spun) and stamped manufactured liners perform the best.

Explosive
The desired explosive for a PLSC is extrudable, castable, or one that can be injected by a continuous feed, automated technique. Explosives with higher metal driving or acceleration ability are desired. Secondary explosives with relatively high densities (implies higher detonation pressure, velocity, energy and Gurney velocity) are the best. Although PBXN-301 (LX-13 or XTX-8003) does not have all of the desired properties, it was chosen for this study simply because it is readily available and can be easily loaded into a PLSC design. It is also very stable and water resistant after it cures. This explosive also cures to a homogeneous density throughout the cross-section geometry and along the length of the PLSC. PBXN-301, LX-13, and XTX-8003 are all made of 80% PETN explosive and 20% SYLGARD binder. The three designations refer to products manufactured by the Navy, Lawrence Livermore National Laboratory, and Los Alamos National Laboratory, respectively. This explosive has the following properties that are required to run LESCA:

1. Density: 1.53 g/cc
2. Detonation velocity: 0.73 cm/us
3. Gurney velocity: 0.25 cm/us
4. Explosive exponent: 2.88
Tamper/Confinement Material
The tamper or confinement of the PLSC should be fabricated from the most dense material that is practical or economically feasible. Material properties are not important except those that are required to assemble the hardware. Copper was arbitrarily chosen for this study.

Pressure Vessel Material
The pressure vessel material is chosen simply to structurally withstand the external pressure of 15 atmospheres. Because the PLSC jet must penetrate the vessel, this wall thickness must be kept to a minimum and of material made of relatively lower density. Titanium material would be ideal because of the relatively high strength and low density. Cost considerations usually result in the selection of a steel material.

Assumptions
The large number of variables (Figure 1) defining an LSC cross-section geometry makes the design of "the" optimum LSC a very difficult task, primarily because it is not obvious as to which variables to hold constant in any given parametric study. Therefore, several optimized PLSC designs are possible to perform a given task depending on any of a number of selected approaches.

Because of our experience and success with the "W" liner configuration, this design was chosen for this task. A parametric study including the LSC variables shown in Figure 1, using the LESC code, was conducted to find the minimum explosive weight to sever the three inches of 1018 steel.

The following assumptions were made:

1. The steel severance would be accomplished by the jet only penetration (no credit taken for fracture);
2. Minimize the explosive weight for a given cross-section geometry;
3. The liner material is copper;
4. The explosive is PBXN-301;
5. The tamper/confinement material is copper; and
6. The length of the PLSC is arbitrary.

Results
The selected PLSC cross-section geometry is shown in Figure 41. The explosive loading is 10,740 gr/ft (about 1.5 lb/ft). The total PLSC component weight is 66,504 gr/ft (about 9.4 lb/ft).

The PLSC and steel target variable standoff configuration shown in Figures 42 and 43 was arbitrarily selected. This variable standoff configuration will allow the prediction of the PLSC maximum jet penetration (3.22) in steel and also the determination of the optimum standoff (2.0 inches) for this cross-section geometry as shown in Figure 44.
The constant standoff configuration shown in Figure 45 was arbitrarily selected. The constant standoff configuration can also allow the prediction of the PLSC maximum jet penetration (3.5 inches) in steel and also the determination of the optimum standoff (1.74 inches) as shown in Figure 46. The maximum jet penetration and optimum standoff between the variable and constant configurations is due to the difference in the jet particle vector-target impact angles [(\(\alpha\)], see Figures 8 and 43).

The axes (X and Z) defining the jet vector are shown in Figure 43. The jet tip X-axis (VX), Z-axis (VZ), and resultant vector (VMAG) velocities versus distance (XI) from the liner apex (XI = 0) to the liner base (XI = 1) are shown in Figure 47. The maximum resultant vector jet tip velocity was 0.47 cm/us. The jet envelope angle [(\(\beta\)], defined in Figures 8 and 43] was 38 degrees. The jet particle vector-target impact angle [(\(\alpha\)], see Figures 8 and 43] for the variable standoff is 71 degrees.

The PLSC jet - steel target penetration graphics are shown in Appendix A in Figures A1 through A9 for the variable standoff configuration. The PLSC jet - steel target penetration graphics are shown in Appendix B in Figures B1 through B9 for the constant standoff configuration.

## Conclusion

Precision Linear Shaped Charge liner, tamper, and explosive fabrication processes have been demonstrated to produce increased jet penetrations in aluminum and steel targets, more reproducible jet penetrations, and more efficient explosive cross sections compared to equivalent commercial LSCs.

The LESCA predicted jet tip velocities are within 20% of the experimental values (Table I). The predicted jet envelope angles (\(\phi\)) relative to the PLSC are within 20% of the photometrically measured values (Table I). The measured jet-target angles (\(\alpha\)) are within 11% of the predicted values (Table I). Data for PLSC jet penetration into an aluminum target was presented demonstrating a 10% reproducibility for a given test (Figure 20). Data were presented to illustrate 40% improvement in maximum jet penetration for a PLSC design compared to an equivalent 25 gr/ft conventional LSC design (Figure 14).

Jet penetration versus explosive loading data are summarized in Figure 21 and Table II for the PLSC designs for most of the aluminum target data presented in this report. The target material was aluminum 6061-T6. The explosive was LX-13. The tamping material was aluminum, copper or Lexan. The data include both "flange" and "W" PLSC designs. Both "W" and "flange" PLSC designs performed equally well. Data for fracture \(^{10}\), which is part of the total severance of a finite thickness target, was not included in the jet only penetration data presented throughout this report. Modeling/simulation of the fracture mechanism requires the use of a hydrocode like CTH\(^{11-12}\) which was developed at Sandia.
The LESCA code predicted maximum jet penetrations in steel were in very good agreement with the measured data as shown in Figures 32-34 and 39 for 600, 1440, 2000, and 850 gr/ft LSCs. The sample problem PLSC liner, explosive, tamper, and target parameters are summarized in Table III. The PLSC performance parameters are summarized in Table IV.

A parametric study with the LESCA code to determine "the" optimum PLSC design is very difficult because of the large number of interrelated variables. This does, however, emphasize the importance of the LESCA code in obtaining a more optimized design than is currently available from conventional LSC designs. For a given, new component, once the customer requirements are defined (constraining or fixing some PLSC parameters), then the LESCA code can be used to optimize the remaining parameters.

If a more detailed, three-dimensional shock wave physics modeling/simulation is desired, then the CTH hydrocode can be used. In addition to the problem geometries, the code requires the equations of state and Rankine-Hugoniot parameters for all of the different materials to generate the following information:

1. Material flow graphics,
2. Pressure/shock contours in the different material,
3. Shock and rarefaction wave tracking in the different material,
4. Material density contours,
5. Material velocity, temperature, density and pressure-time profiles in all materials,
6. Explosive initiation from single to multiple points,
7. LSC liner acceleration,
8. Jet formation,
9. Jet elongation,
10. Jet penetration in all target materials, and
11. A lot of other information.

The PLSC designs similar to those presented here have recently been incorporated in Sandia National Laboratory (SNL) systems. The Explosive Components Department plans to use PLSC designs in all future SNL systems requiring jet severance of materials, including metals, Kevlar parachute suspension lines, thick steel plates, and graphite-epoxy motor cases.
References


Tables
Table 1  LSCAP* Versus Experimental PLSC Parameters
Liner: Flange design, phase 0
Tamper: Aluminum
Explosive: PBXN301, 25 gr/ft, Ensign Bickford
Target: Aluminum 6061-T6
Cordin Camera: 0.233 us interframe time

<table>
<thead>
<tr>
<th>Liner</th>
<th>Mat.</th>
<th>t(in)</th>
<th>(\theta)(deg)</th>
<th>(V_j)(cm/(\mu)s)</th>
<th>(\theta)(deg)</th>
<th>(\alpha)(deg)</th>
<th>P(in)</th>
<th>S.O.(in)</th>
<th>(t_{bm})(us)</th>
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</thead>
<tbody>
<tr>
<td>AL</td>
<td>.004</td>
<td>70</td>
<td>.57</td>
<td>.65</td>
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<td>.37</td>
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<td>74</td>
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<td>.004</td>
<td>90</td>
<td>.36</td>
<td>.33</td>
<td>27</td>
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<td>77</td>
<td>79</td>
<td>.16</td>
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<tr>
<td>CU</td>
<td>.004</td>
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<td>.26</td>
<td>.26</td>
<td>24</td>
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<td>.16</td>
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<td>CU</td>
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<td>.33</td>
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<td>NI</td>
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<td>.22</td>
<td>.20</td>
<td>15</td>
<td>15</td>
<td>81</td>
<td>83</td>
<td>.11</td>
</tr>
</tbody>
</table>

\(V_j\) = jet tip velocity
\(\theta\) = jet envelope angle relative to PLSC
\(\beta\) = liner apex angle
\(t\) = liner thickness
\(P\) = jet penetration, maximum
\(\alpha\) = jet target impact angle
\(S.O.\) = standoff, optimum
Exp. = experimental data
\(JBREAK\) = LSCAP jet breakup stress model
\(TBCON\) = jet breakup constant
\(YLIN\) = dynamic yield stress/liner
\(U_{min}\) = minimum jet penetration velocity
\(AL\) = aluminum 6061T6
\(CU\) = oxygen free copper/annealed/soft
\(NJ\) = annealed/soft/nickel
\(NM\) = not measurable
\(t_{bm}\) = measured jet breakup time
\(\alpha = 90 - \theta/2\)

* - LSCAP CODE RENAMED LESCA
Table II. PLSC Jet Penetration of Aluminum Target Data

<table>
<thead>
<tr>
<th>PLSC</th>
<th>(gr/ft)</th>
<th>Explosive</th>
<th>Tamper</th>
<th>Target</th>
<th>Al P (in)</th>
<th>S.O. P (in)</th>
<th>Steel P (in)</th>
</tr>
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<tr>
<td>0</td>
<td>25</td>
<td>LX-13</td>
<td>Aluminum</td>
<td>6061-T6</td>
<td>0.170</td>
<td>0.100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>LX-3</td>
<td>Aluminum</td>
<td>7075-T6</td>
<td>0.070</td>
<td>0.080</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>LX-13</td>
<td>Aluminum</td>
<td>6061-T6</td>
<td>0.130</td>
<td>0.909</td>
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</tr>
<tr>
<td>6</td>
<td>30</td>
<td>LX-13</td>
<td>Cu/Lexan</td>
<td>6061-T6</td>
<td>0.190</td>
<td>0.100</td>
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<tr>
<td>7</td>
<td>65</td>
<td>LX-13</td>
<td>Aluminum</td>
<td>6061-T6</td>
<td>0.320</td>
<td>0.137</td>
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<td>8</td>
<td>850</td>
<td>OCTOL</td>
<td>Copper</td>
<td>6061-T6</td>
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<td>9</td>
<td>5000</td>
<td>PBXN-301</td>
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<td>6061-7651</td>
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<tr>
<td>10</td>
<td>10,740</td>
<td>LX-13</td>
<td>Copper</td>
<td>6061-T6</td>
<td>5.1*</td>
<td>3.0*</td>
<td></td>
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</table>

P - Jet Penetration Depth
S.O. - PLSC Standoff From Target
(gr/ft) - grain/foot Explosive Loading

* - LESCA Predicted
### Table III. Example Problem PLSC Parameters

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PARAMETER VALUE</th>
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<td><strong>LINER:</strong></td>
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<tr>
<td>Material:</td>
<td>Copper</td>
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<tr>
<td>Thickness (in):</td>
<td>0.100</td>
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<tr>
<td>Density (g/cc):</td>
<td>8.96</td>
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<td>Sound velocity (cm/us):</td>
<td>0.394</td>
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<tr>
<td>Apex angle (degrees):</td>
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</tr>
<tr>
<td>Inside width (in):</td>
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<td>Outside width (in):</td>
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<td>Apex height (in):</td>
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<tr>
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<td>Type:</td>
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<tr>
<td>Density (g/cc):</td>
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<tr>
<td>Detonation velocity (cm/us):</td>
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<td>Gurney velocity (cm/us):</td>
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<td>Explosive exponent:</td>
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<td>Height (in):</td>
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<td>Maximum width (in):</td>
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<td>Explosive weight (gr/ft):</td>
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<td><strong>TAMPER/CONFINEMENT:</strong></td>
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<tr>
<td>Material:</td>
<td>copper</td>
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<tr>
<td>Density (g/cc):</td>
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</tr>
<tr>
<td>Inside width (in):</td>
<td>3.22</td>
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<tr>
<td>Outside width (in):</td>
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<td>Height (in):</td>
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<tr>
<td><strong>TARGET:</strong></td>
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<tr>
<td>Material:</td>
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<td>Thickness (in):</td>
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### Table IV. Example Problem Jet Penetration in Steel Data Summary

**Target:** 3.0 inch thick 1018 steel plate

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<tr>
<th>ITEM</th>
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<td><strong>Jet:</strong></td>
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<tr>
<td>Material:</td>
<td>copper</td>
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<tr>
<td>Tip Velocity (cm/us)</td>
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<td>Envelope angle (degrees):</td>
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<td>Particle vector-target angle(degrees):</td>
<td>71 (variable standoff)</td>
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<tr>
<td><strong>Target Penetration:</strong></td>
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<tr>
<td>Variable Standoff(in):</td>
<td>3.22</td>
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<td>Constant Standoff(in):</td>
<td>3.50</td>
</tr>
<tr>
<td><strong>PLSC - Target Optimum Standoff:</strong></td>
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<tr>
<td>Variable Standoff(in):</td>
<td>2.00</td>
</tr>
<tr>
<td>Constant Standoff(in):</td>
<td>1.74</td>
</tr>
</tbody>
</table>
Figures
FIGURE 1. LSC CROSS-SECTION VARIABLES
FIGURE 2. LINEAR SHAPED CHARGE COLLAPSE & JETTING
FIGURE 3. CONVENTIONAL LSC FABRICATION

MEtal/SHEATH TUBE
(AL, Cu, Pb)

GRANULAR EXPLOSIVE
(RDX, HNS, DIPAM)

ROLL/SWAGE FORMED
FINAL CONFIGURATION
FIGURE 4. CONVENTIONAL 25 gr/ft, Al SHEATH, HNS EXPLOSIVE
ACTUAL CROSS-SECTION
FIGURE 5. TEST TO TEST REPRODUCIBILITY OF CONVENTIONAL LSC
FIGURE 6. PLSC COMPONENTS
25 gr/ft, LX-13 H.E., AL TAMPER, .010" THICK AL LINER

FIGURE 7. LESCA CODE MODEL OF LSC CROSS-SECTION
Figure 8. LESCA JET PENETRATION GRAPHICS
PHOTOGRAPH OF 150 gr/ft, RDX, AI SHEATH, LSC JET

PHOTOGRAPH OF 220 gr/ft, RDX, AI SHEATH, LSC JET

FIGURE 9. PHOTOGRAPHS OF LSC JET TIP ENVELOPE ANGLE AND JET PARTICLE VELOCITY VECTOR
FIGURE 10. LESCA CODE GRAPHICAL REPRESENTATION OF HALF OF THE LSC LINER COLLAPSE PROCESS
FIGURE 11. LESCA CODE LSC SIMULATION WITH DETONATOR AT MINIMUM VERSUS MAXIMUM STANDOFF
FIGURE 12. "FLANGE" TYPE 25 gr/ft PLSC
**LEGEND**

- □ LSCAP MODELING
- ○ EXPERIMENTAL DATA
  (CONVENTIONAL LSC)

**FIGURE 13.** CONVENTIONAL LSC PREDICTED JET PENETRATION VERSUS STANDOFF COMPARED TO EXPERIMENTAL DATA
FIGURE 14. JET PENETRATION IN ALUMINUM VERSUS STANDOFF FOR PLSC VERSUS CONVENTIONAL LSC (Al LINER, 90 degree apex, Al TAMPER)
FIGURE 15. 65 gr/ft, PLSC7 ACTUAL CROSS-SECTION
FIGURE 16. 65 gr/ft PLSC 7 CROSS-SECTION AND JET PENETRATION INTO ALUMINUM 6061-T6 VERSUS STANDOFF (LESCA VERSUS MEASURED DATA)
FIGURE 17. 20 gr/ft PLSC JET PENETRATION IN 6061-T6 ALUMINUM VERSUS STANDOFF (LESRA VERSUS MEASURED DATA)
FIGURE 18. 30 gr/ft PLSC6 JET PENETRATION VERSUS STANDOFF (LESCA CODE VERSUS MEASURED DATA)
FIGURE 19. REPRODUCIBILITY OF MEASURED 30 gr/ft PLSC6 JET PENETRATION VERSUS STANDOFF DATA (TWO TESTS)
FIGURE 20. REPRODUCIBILITY OF 30 gr/ft PLSC6 JET PENETRATION VERSUS DISTANCE ALONG TARGET (CONSTANT STANDOFF, FOAM TAMPER)
FIGURE 21. PLSC JET PENETRATION DEPTH (P) VERSUS PLSC EXPLOSIVE LOADING (G) FOR ALUMINUM TARGETS
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VARIABLE ORIENTATION PERFORMANCE SUMMARY

LEGEND
□ LSCAP MODELING
○ T#3/ANNEAL/D/1300 FAIR QUEEN
△ T#5/UNTREATED LINER

FIGURE 23. PENETRATION VERSUS STANDOFF/5000 gr/ft PLSC
FIGURE 24. PENETRATION VERSUS TARGET LENGTH/5000 gr/ft PLSC
Intentionally Left Blank
FIGURE 26. PENETRATION & FRACTURE OF ALUMINUM TARGET/5000 gr/ft PLSC
Intentionally Left Blank
FIGURE 27. PENETRATION & FRACTURE OF ALUMINUM TARGET/5000 gr/ft PLSC
FIGURE 28. PENETRATION & FRACTURE OF ALUMINUM TARGET/5000 gr/ft PLSC
FIGURE 29. 600 gr/ft Cu SHEATH, RDX EXPLOSIVE LSC

FIGURE 30. 1440 gr/ft Cu SHEATH, RDX EXPLOSIVE LSC

FIGURE 31. 2000 gr/ft Cu SHEATH, RDX EXPLOSIVE LSC
FIGURE 32. PENETRATION VS. STANDOFF/600 gr/ft LSC
FIGURE 33. PENETRATION VS. STANDOFF/1440 gr/ft LSC
**Figure 34. Penetration vs. Standoff/2000 gr/ft LSC**

Legend:
- □ LESC Modeling
- ○ Experimental Data
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Intentionally Left Blank
FIGURE 37. JET PENETRATION & FRACTURE OF 1018 STEEL TARGET
FIGURE 38. 850 gr/ft PLSC CONFIGURATION

Not to Scale
Figure 39. Penetration vs. Standoff/850 gr/ft PLSC
FIGURE 40. EXAMPLE PROBLEM CONFIGURATION
GR/FT FACTOR = 470.31
LINER GR/FT = 8642.1
TAMPER GR/FT = 46069.
HE GR/FT = 10740.
TOTAL GR/FT = 65451.

FIGURE 41. PLSC CROSS SECTION GEOMETRY/10,740 gr/ft PBXN-301 EXPLOSIVE
FIGURE 42. PLSC - STEEL TARGET VARIABLE STANDOFF CONFIGURATION
LINEAR SHAPED CHARGE (LSC) - TARGET PROFILE CONFIGURATION

FIGURE 43. LSC - STEEL TARGET VARIABLE STANDOFF CONFIGURATION
Figure 44. Penetration versus standoff/10,740 gr/ft PLSC
FIGURE 45. PLSC - STEEL TARGET CONSTANT STANDOFF CONFIGURATION
Figure 46. Penetration versus parallel standoff.
FIGURE 47. JET TIP VELOCITIES VERSUS DISTANCE ALONG THE LINER
APPENDIX A

VARIABLE STANDOFF CONFIGURATION

10,740 gr/ft PLSC Jet Penetration Versus Target Distance Data

<table>
<thead>
<tr>
<th>Variable</th>
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<tbody>
<tr>
<td>A1 Jet Penetration/10.5 μs</td>
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<tr>
<td>A2 Jet Penetration/20.3 μs</td>
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</tr>
<tr>
<td>A3 Jet Penetration/40.5 μs</td>
<td>83</td>
</tr>
<tr>
<td>A4 Jet Penetration/60.8 μs</td>
<td>84</td>
</tr>
<tr>
<td>A5 Jet Penetration/80.2 μs</td>
<td>85</td>
</tr>
<tr>
<td>A6 Jet Penetration/100 μs</td>
<td>86</td>
</tr>
<tr>
<td>A7 Jet Penetration/121 μs</td>
<td>87</td>
</tr>
<tr>
<td>A8 Jet Penetration/140 μs</td>
<td>88</td>
</tr>
<tr>
<td>A9 Jet Penetration/160 μs</td>
<td>89</td>
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FIGURE A1. JET PENETRATION/10.5 us
FIGURE A2. JET PENETRATION/20.3 µs
FIGURE A5. JET PENETRATION/80.2 μs
VARIABLE STANDOFF TEST

LEGEND

□ = 100. MICROSEC

FIGURE A6. JET PENETRATION/100 US
FIGURE A7. JET PENETRATION/121 us
LEGEND

- 140. MICROSEC

FIGURE A8. JET PENETRATION/140 us
LEGEND

\[ \square = 160. \text{ MICROSEC} \]

FIGURE A9. JET PENETRATION / 160 US
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## APPENDIX B

### CONSTANT STANDOFF CONFIGURATION

10,740 gr/ft PLSC Jet Penetration Versus Target Distance Data

<table>
<thead>
<tr>
<th>B1</th>
<th>Jet Penetration/132 μs</th>
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</thead>
<tbody>
<tr>
<td>B2</td>
<td>Jet Penetration/142 μs</td>
<td>94</td>
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<tr>
<td>B3</td>
<td>Jet Penetration/149 μs</td>
<td>95</td>
</tr>
<tr>
<td>B4</td>
<td>Jet Penetration/156 μs</td>
<td>96</td>
</tr>
<tr>
<td>B5</td>
<td>Jet Penetration/164 μs</td>
<td>97</td>
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<tr>
<td>B6</td>
<td>Jet Penetration/168 μs</td>
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<tr>
<td>B7</td>
<td>Jet Penetration/171 μs</td>
<td>99</td>
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<tr>
<td>B8</td>
<td>Jet Penetration/175 μs</td>
<td>100</td>
</tr>
<tr>
<td>B9</td>
<td>Jet Penetration/178 μs</td>
<td>101</td>
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</table>
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Figure B1. Jet Penetration/132 us
FIGURE B2. JET PENETRATION/142 µs
FIGURE B3. JET PENETRATION/149 us
LEGEND

□ = 156 MICROSEC

FIGURE B4. JET PENETRATION/156 US
FIGURE B5. JET PENETRATION/164 us
LEGEND

\[ \square = 168. \text{ MICROSEC} \]

**FIGURE B6. JET PENETRATION/168 µs**

11KLXCUST.DAT - 14-MAR-96 - 15:30:00 - LSCAP 0.7
PARALLEL STANDOFF = 6.95 CM
FIGURE B7. JET PENETRATION/171 us
FIGURE B8. JET PENETRATION/175 us
FIGURE B9. JET PENETRATION/178 us
Distribution

1 Aerojet Ordnance Co.
   Attn: J. Carleone
   2521 Michelle
   Tustin, CA 92680

1 Allied Signal Aerospace Co.
   Kansas City Division
   Attn: G. Oswald
   P.O. Box 1159
   Kansas City, MO 64141

1 Argonne National Laboratory
   Attn: David B. Black
   Bldg. 207
   9700 South Cass Avenue
   Argonne, IL 60439

1 BP Exploration, Inc.
   Attn: Nick Whitehead
   P.O. Box 4587
   Houston, TX 77210-4587

1 Joseph Backofen
   P.O. Box 1925
   Washington, D.C. 20013

1 Ballistic Research Laboratory
   Attn: J. T. Harrison
     R. Jameson
     W. P. Walter
   Aberdeen Proving Ground
   Aberdeen, MD 21005

1 James R. Barrett, P.E.
   B&W Nuclear Environmental Services, Inc.
   P.O. Box 10548
   2220 Langhome Road
   Lynchburg, VA 24506-0548

1 Battelle Columbus Laboratory
   Attn: D. R. Trott
   505 King Avenue
   Columbus, OH 43201

1 Bechtel Hanford, Inc.
   Attn: Stephen K. Pulsford
     Mail Stop X5-53
   3350 George Washington Way
   Richland, WA 99352

1 Center for Explosives Technology Research
   Attn: Per-Anders Persson
   New Mexico Technical Institute
   Socorro, NM 87801

1 Controlled Demolition, Inc.
   Operations Headquarters
   Attn: Fredrick M. Nicol
   2737 Merryman’s Mill Road
   Phoenix, MD 21131-0326

1 Demex International, Ltd.
   Attn: P. L. Marsh
   P.O. Box 156
   Picayune, Mo 39466

1 Dyna East Corporation
   Attn: P. C. Cho
     R. C. Ciccarelli
     W. J. Flis
   3132 Market Street
   Philadelphia, PA 19104

1 E. I. DuPont de Nemours & Co., Inc.
   Attn: F. C. Sawyers
   3520 Pebble Beach Dr.
   Farmers Branch, TX 75234

1 Ensign-Bickford Co.
   Aerospace Division
   Attn: L. J. Mecca
   660 Hopmeadow St.
   Simsbury, CT 06070
1 Exlosive Technology
Attn: M. D. Anderson
P.O. Box KK
Fairfield, CA 94533-0659

1 Halliburton
Explosive Products Center
Attn: John Regalbuto
David Leidel
8432 IH35W
Alvarado, TX 76009-9775

1 Honeywell, Inc.
Defense Systems Division
Attn: J. Houlton
5091 South County Road 18
Edina, MN 55436

1 ICI Americas, Inc.
P.O. Box 819
Valley Forge, PA 19482

1 Lawrence Livermore National Laboratory
Attn: M. Finger
M. J. Murphy
B. Bowman
P.O. Box 808
Livermore, CA 94550

1 Lockheed Missiles & Space Co.
Attn: W. E. Moffatt
111 Lockheed Way
Sunnyvale, CA 94086

1 Los Alamos National Laboratory
Attn: M. Ginsberg, J960
R. Karpp, P940
J. Repa, J960
J. Walsh
P.O. Box 1663
Los Alamos, NM 87545

1 Mason & Hanger
Silas Mason Co., Inc.
Pantex Plant
Attn: D. Garrett
S. Hallett
P. Kramer
P.O. Box 30020
Amarillo, TX 79177

1 Naval Weapons Center
Materials Engineering Branch
Attn: G. A. Hayes
China Lake, CA 93555

1 Nobel Chemicals, Inc.
P.O. Box 1059
Jamestown, NC 27282

1 Pacific Northwest Laboratories
Attn: Suzanne Garrett, K8-18
P.O. Box 999
Richland, WA 99352

1 Picatinny Arsenal/ARDEC
Attn: Allen Epstein/SMCAR-FSM-M
Ron Karak/SMCAR-FSM-M
Picatinny Arsenal, NJ 07806-5000

1 Southwest Research Institute
Attn: A. B. Wenzel
6220 Culebra Road
San Antonio, TX 78284

1 Strategic Systems Project Office
Attn: D. Kenemuth, 27314
Department of the Navy
Washington, D.C. 20376

1 Teledyne
Attn: D. F. Elliott
3601 Union Road
Hollister, CA 95023

1 U.S. Army Armament Research
and Development Center
Attn: A. Garcia
Building 354
Dover, NJ 07801
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Oxides</th>
</tr>
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<tbody>
<tr>
<td><strong>Fjp92</strong></td>
<td><em>posted December 21, 1999 12:51 PM</em></td>
</tr>
<tr>
<td>Frequent Poster</td>
<td></td>
</tr>
<tr>
<td><em>I have found a little packet at home. On it is ritten oxide. I think you use the stuff with paint i am not sure. I am almost sure that it is NOT iron oxide. It is red, purple kind of a colour. The colour is not the same as that of iron oxide that i saw in the lab once during a practical. Does any one know what it might be? I have read some where, i think it was the duch pyro page that different oxides dissolved in nitric acid wil give the nitrate and that can then be used in colour compositions.</em></td>
<td></td>
</tr>
<tr>
<td><strong>Nitro</strong></td>
<td><em>posted December 21, 1999 02:30 PM</em></td>
</tr>
<tr>
<td>unregistered</td>
<td></td>
</tr>
<tr>
<td><em>It can be Pb3o4.</em></td>
<td></td>
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All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: &quot;Alumaseal&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zanx Frequent Poster</td>
<td>On a package of &quot;Alumaseal&quot; it didn't say whether it had aluminum in it or not. Are there some kinds of &quot;Alumaseal&quot;s that don't have aluminum powder? I am assuming it does, because of the name. It said it was for fixing radiators or something like that. I know &quot;Alumaseal&quot; was discussed here before, and I was wondering if anyone had any experience with it and could help me out. Thanks for any help.</td>
</tr>
<tr>
<td>Zanx Frequent Poster</td>
<td>Oops, that's know, not khow. =) By the way, has anyone tried using it in pyrotechnics/explosives? If so, how did it work? Thanks.</td>
</tr>
<tr>
<td>PEACE Frequent Poster</td>
<td>hey zanx i think that is aluminium powder, pretty sure. could u plz tell me where u bought it from (obviously a car shop), but which shop? thanx</td>
</tr>
</tbody>
</table>
Aluminum is present, but along with something else I've heard a few different things and am not sure exactly which it is. But what I can tell you is that the amount of aluminum present in Alumaseal is not enough for pyrotechnical purposes. It doesn't take much fine aluminum powder to coat another powder's grains until the whole thing looks like aluminum powder.

(MEGA's note: The something else is mostly corn meal, there is very little actual aluminum anymore, I received this info from an employee at a manufacturer of the sealent)

[Note: This message has been edited by megalomania]

That's too bad about the impureness (is that a word? = )) of the Alumaseal. After I try it, I will be sure to post the results. PEACE, the Alumaseal was at Kragen Auto Parts. Sorry I took so long to reply, I don't check the forum too often.

Some analysis is in order here. Take a small amount of the Alumaseal and crush it in some warm water. Let settle and pour off the water and evaporate to dryness. There shouldn't be any residue. If there is, divide it into 2 parts. Add some tincture of iodine to one part. If it turns blue then it's starch. Add HCL acid to the other part. If it fizzes, and the iodine test didn't react, then it's superfine Al powder residue.

Next, put some in a steel spoon and heat red-hot with a torch. Does it (a-seal) remain unchanged? It should if it's pure Al. Any organic material will char to black carbon.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
dlwdaw
Frequent Poster

posted December 21, 1999 03:36 PM

Sorry for taking so long to reply. I must have missed this topic, I have 2 tubes of A-seal. I used to have 3.
well I mixed the contents of the tube with hot water.
I mixed, filtered.
hotwater, mix filter.
I reapeated about 20 times...
well the last time, i left it to dry in my bath room(by the way dont do this, you will find out later)
my bathroom was starting to smell worse than the shit that it occasionally saw(it is a second bathroom soo its not used much).
well I stuck my fingers in it(BAD IDEA)
and I pulled my fingers out with a bunh of maggots!
you know those little white things that get on rotten meat, flies lay tem.
they have some kind of "edible"(to a fly) thing in them.
I threw up.
so from this and the tests I performed it is not good for pyrotechnics, it may work as a booster in HE.
but after trying to get KMnO4 flash to work, i can say, DONT FUCK WITH IT!

oh yeah, for the spelling, it is pretty bad.
well today in shop, i cut my finger, and it hurts like hell. so sorry for badd spelling..

-------------
-dlwdaw

"... always look on the positive side of things, blow things up not down"

-- Ragnar Benson

HMTD Factory
Frequent Poster

posted December 21, 1999 08:27 PM

Wow, I don't know maggots like aluminum, maybe the impurities have the smell that flies find attractive. You should set that thing on fire and watch them burn, heheh.

IP: Logged

All times are ET (US)
Hi Guys,

I went through the past posts, and I saw a lot of info regarding Sodium Chlorate. I do have some questions, if you guys could help me out, I would much appreciate it:

1. Exactly how stable is Sodium Chlorate to shock and friction? Would dropping it or crushing it risk detonation?

2. I have heard that adding Al powder would increase its power upon detonation. I have seen the ratio 3 SC to 1 Al. In addition, I have also came across 3 SC to 2 Sugar. Are these really that helpful? If so, do these create a more sensitive explosive (as far as friction and shock goes)?

3. Exactly what do the powdered Al and sugar contribute to the explosive? They obviously don't liberate Oxygen... I am assuming that the Al would be more powerful...

Thanks a bunch in advance.
1. SC itself is not an explosive, so it won't detonate, not shock/friction sensitive even mixed with fuels, if the shock gives spark or the friction is getting hot, then it's another question, it will set off the mixture

2. Using aluminum powder and sugar is quite common in increasing explosive performances. aluminum is even used to make already strong high explosive more powerful, sugar is good for pyrotechnics and common explosive mixture

3. We need 2 things to make an explosive: oxygen, and things can burn in oxygen. Here SC gives oxygen when heated, then Al or sugar burns in oxygen. Al burns with a lot of heat, and cause hot air to become hotter, expand more, more destructive. Sugar react with oxygen at relatively low temperature, so the need of heat is little, then it starts playing with oxygen itself. So Al makes it hot and sugar gives it crispy reaction.

Mixture explosives including this are not very shock/friction sensitive, but they all respond to sparks, electricity sparks, and heat.

Take a pinch of chlorate/sugar and whack it on concrete with a hammer. BANG! Impact sensitive.

Take a pinch of chlorate/sugar, take a piece a fine sandpaper glued to a board, and pull it fast across concrete. POOF! Friction sensitive.

Now it's nowhere near as sensitive as Acetone Peroxide, but you don't want to throw it around like a brick either.

And pure chlorate IS explosive with a detonator, no fuel needed.

"The knowledge that they fear is a weapon to be used against them."

http://www.50megs.com/nbk2000

Then obviously I know nothing about NaClO3.
No fuel is needed because the Sodium+ part act as a fuel, and the -Chlorate part act as an oxidizer.

---

/Survivor
Survivor@netlimit.com
---

HMTD Factory
Frequent Poster

C'mon guys nobody use NaClO3 alone to as an explosive, and obviously NiteLife thought an explosive is something that gives oxygen when aroused, give him the right concept concerning explosive knowledge. Posts made NiteLife thought NaClO3 is a dangerous explosive, but NaClO3 alone is an explosive only in bulk quantities, like ANFO, need at least several pounds to be effective, many restrictions apply. Mix it with fuels then it is explosive anytime anywhere. NaClO3 have "explosive property", yet not a real "explosive", at least not a convenient one.

Well NaClO3 gives out heat when decomposed, and so do KClO3, and Na+ and K+ burn into NaCl and KCl but they are not listed as explosives, well it burns only once with chlorine atom, not reacting with Os', three Os' wasted, if you said NH4ClO3 is an explosive then I admit that 'cuz NH4+ don't form into NH4Cl instead burning into N2 and H2O and HCl, that's a real explosive, and it's more correct because NH4+ burned with oxygen, that's the concept of common explosives, you oughtta have an oxidizer, mixed with some fuel(within the molecule this case) that react quickly with oxygen.

There are explosives that are not in this oxygen burning category, they are not as usual, sometimes nasty, say, people don't use them as often, only special occasions(trigger explosive) or they are not qualified in safety (Mg-Al-Zn/organic chlorides, metal acetylides, NCl3, PbN3, Ni3... NCl3 explodes under sunlight, ask people about how sensitive Ni3 is.)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: pyro supplyers in AUstralia ...need help!</th>
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</thead>
<tbody>
<tr>
<td>Pryo Te k</td>
<td>I need some pyro supplyer in sydeny?</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>or chem supplyers in sydeny? thank</td>
</tr>
</tbody>
</table>
|              | ---------------------------------------------------
|              | Great minds are't made at school                |
|              | They are born!                                 |

| Pryo Te k    | the info is not for me ist for one of my freinds|
| Frequent Poster | as he is moving to sydeny and he said         |
|              | he would get me some chems please help 😊      |
|              | thank you                                     |
|              | ---------------------------------------------------
|              | Great minds are't made at school                |
|              | They are born!                                 |

All times are ET (US)
### Extracting perchlorats - The Explosives and Weapons Forum

#### Author: rolfnixon  
**Frequent Poster**

<table>
<thead>
<tr>
<th>Topic: Extracting perchlorats</th>
<th>posted December 26, 1999 02:41 PM</th>
</tr>
</thead>
</table>

Extracting perchlorates. Could anyone please tell me a way to separate potassium perchlorate from a mix of potassium benzoate and potassium perchlorate so I can make allu flash powder. I can bye the mix for 13 dollars pr/kg in a firework shop, so I guess there is gona be a big crater somewhere in the state of Denmark when we enter the year of 2000.

Rolf

---

| Author: HMTDFactory  
**Frequent Poster** | posted December 27, 1999 04:19 AM |
|--------------------|-----------------------------------|

Well, a little piece of info, potassium perchlorate doesn't dissolve in alcohol, look up whether potassium benzoate dissolve in alcohol or not.

---

**Administrative Options:** Close Topic | Archive/Move | Delete Topic

**Contact Us | The Forum**

Powered by: Ultimate Bulletin Board, Version 5.38  
<table>
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<tr>
<th>Author</th>
<th>Topic: iron oxide</th>
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<tbody>
<tr>
<td><strong>drachen</strong></td>
<td><strong>A New Voice</strong></td>
</tr>
<tr>
<td>posted December 23, 1999 01:23 PM</td>
<td>![icon] ![icon]</td>
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<tr>
<td>What iron oxide is better for thermite? (red or black) What is the fastest way to make them?</td>
<td>![icon] ![icon]</td>
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<tr>
<th><strong>HMTD Factory</strong></th>
<th><strong>Frequent Poster</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>posted December 23, 1999 07:49 PM</td>
<td>![icon] ![icon]</td>
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<tr>
<td>Black oxides sometimes have water in them, and are not as oxygen rich as red oxide, so the red one is better. There are a kind of &quot;warm pouch&quot; for sell in pharmacies, you open it, shake a little, then it starts to warm up, that's for use in winter. It is mainly iron powder, plus water, and some electrolyte, maybe calcium hydroxide. Use more water to wash away electrolyte (here's a tip, place a magnet outside the beaker to help iron stay at bottom, no filters needed), then heat the powder with strong heat, stir them so they don't block, the heat can both vaporize water and oxidize the iron, when you see the powder is turning red, heat some more, and you are done.</td>
<td>![icon] ![icon]</td>
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<th><strong>nbk2000</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>posted December 23, 1999 10:54 PM</td>
<td>![icon] ![icon]</td>
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<tr>
<td>Take a very strong magnet inside of a plastic bag and run it over dry dirt or sand (river or ocean). There's plenty of iron oxide in dirt, free for the taking. &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
<td>![icon] ![icon]</td>
</tr>
</tbody>
</table>
Hey everybody, I haven't been online in a few days. Regarding the post, when I was younger I used to take a big magnet to the park and a plastic bag. I'd run the magnet over the sand (sand boxes around playground equipment etc.) then when there was too much on the magnet I would remove it by scraping it into the bag. I got several hundred grams of iron fillings doing this is a relatively short period of time. Another way would be to wet some steel wool and leave it in a plastic container for a while, works nicely.

This is sort of a long and difficult way to make iron oxide but it should be worth the trouble if large amount of iron oxide is to be made.

Boil up iron metal (steel wool) in a acid (HCL) Use excess metal so that all the acid will be used and then remove the excess metal. Now add sodium hydroxide solution. This will make iron hydroxide precipitate. Now the hard part is to filter the iron hydroxide (facuum would be nice. Heat this inside a metal pipe in a very hot fire (RED hot) for 1 hour + and the hydroxide will decompose to the oxide.

Heres a file i found on the web.

Iron (III) Oxide the EASY way.
So you've read the anarchists cookbook on making thermite, you want iron (III) oxide but don't want to run the risk of shorting out the electricity in your entire house, while at the same time electrocuting yourself while choking to death on chlorine fumes. Let's face it getting iron (III) oxide with electrolysis is dangerous, takes ages (I had it hooked up for a few days in my garage and got less than an eighth of a gram of rust), and if you don't have an AC to DC converter your fucked.
You want a good chemical method for extracting Iron from stuff containing iron.

You will need:
2 glass jars
funnel
filter paper
ammonia or caustic soda (sodium hydroxide)
water
Iron sulphate tablets (or anything else containing iron)

1) Add some ammonia or caustic soda to a jar containing water, the amount isn't important (you don't need much water if your using ammonia).
2) Get your Iron sulphate tablets and crush them up

3) Add the tablets to the other jar and add just enough water to dissolve them. You may want to use a lot of tablets, or just go down to your local garden center and pick up a big box of gardening fertiliser stuff (must contain iron) and use that. Once again the amount of water isn't important, just dissolve as much as you can in a bucket and scoop out the solution as you need it.

4) Tip the contents of jar 2 into jar 1, now stir.

What do you see? green shit in the jar. The green stuff is Iron Hydroxide, now for those of you doing either A-level chemistry or GNVQ science, I will point out that iron hydroxide is unstable as it is lacking a third oxygen molecule, hence it is Iron (II) Oxide.

5) Filter the green stuff out, use jar 2 to filter the liquid into. Save the green stuff.
(beyond this the steps are optional)
6) Add more water to jar 1, then add the green stuff, now stir.

7) Filter out the green stuff (should be turning brown)

8) Leave to dry, by the time it has dried it will have turned brown/red in colour. This is pure Iron (III) Oxide, and it's as fine as flour.

Now wasn't that method much more simpler and quicker than hooking up all of the stuff that you would need if you did it the other way.

If you want to do this on a mass scale, simply do the following: Get two buckets, a bottle of ammonia and a large box of fertiliser stuff (containing iron).

1) Tip the fertiliser stuff into the first bucket, with some water to dissolve it all.

2) Tip the ammonia into the second bucket.

3) Tip the first bucket into the second bucket and stir

4) Filter and save the green shit. (Will oxidise completely in a few minutes).

Carrying out either of these methods takes less than five minutes to do, I have yet to try and dump a load of nails into the ammonia. In theory it should work and would produce the greatest amount of iron (III) oxide.

Hope this helps

Bandit
<table>
<thead>
<tr>
<th><strong>User</strong></th>
<th><strong>Post Date</strong></th>
<th><strong>Message</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>drachen</td>
<td>04 January 2000 08:35 PM</td>
<td>Thanks guys, im going to try the ammonia method, as soon as I get to the store.</td>
</tr>
<tr>
<td>nbk2000</td>
<td>10 January 2000 12:35 AM</td>
<td>I was at the hardware store today and saw a 5 pound bag of Iron Sulfate on sale for $5. The bag says it has a 19% Iron content (as Fe). At that rate, a pound of iron oxide should cost about $5. &quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
</tr>
</tbody>
</table>
**Author** | **Topic:** Chemical Suppliers to be trusted?
---|---
**Nite Life**  
A New Voice  
posted December 27, 1999 01:41 AM  
[Edit]  
[Reply]  
Well, I found an old textfile that said certain chemical suppliers would notify authorities when an "unusual" order request was made. The file cited B. Prieser Scientific as a specific example.

Do you guys know anything about this kind of stuff? Of course, it would be downright stupid to order H2SO4 and HNO3 and Toluene in one order, but what about the 4 liters of Nitric acid shipped to some joe that is not part of any company at all (and also turned out to be his first order!)

I looked at [www.pyrotek.org](http://www.pyrotek.org), and it looked sensational. It got me excited, but I had to wonder... Could these kind of chemical companies be too good to be true? Could some chemical companies be just a front just to catch socially deviant people?

Well, anyway... Maybe I am just too paranoid.

Thanks,

NiteLife

**HMTD Factory**  
Frequent Poster  
posted December 27, 1999 04:27 AM  
[Edit]  
[Reply]  
Why don't you order them from different suppliers? You can get things from places other than pyro supplier.

Well the World Trade Center guys ordered nitric acid, sulfuric acid, glycerin, and urea, they didn't suspect them.
The awareness of the legal body has increased many folds since people started blowing shit up in the United States. Order other stuff first, and do break up orders for bomb making materials over a span of time as well as with different companies. Hell, just to be safe, order using different names (if you can manage it). A little paranoia never hurt anyone.

IP: Logged

Oh, forgot to mention, although the WTC guy boldly ordered bomb combo, he used a pseudonym.

IP: Logged

Yes, chemical companies are required to report certain chemicals over certain amounts because of the Methamphetamine Control Act and a few other laws. Chemical companies are not bound by other requirements (yet) but they are bound by legal liability. That means a chemical company is held liable for YOUR misuse of a chemical. This is an evil gestapo tactic that has quite easily allowed the gov't to not make a law and still get chemical companies to regulate their own industry. So, you need to make yourself a known and trusted customer with legitimate uses for your chemicals other than some nefarious purpose. Other than the threshold amounts for chemicals, only ordering suspicious combinations will get you reported.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

IP: Logged
### Author: Fjp92
**Frequent Poster**

**Topic:** To Mega (Formaldehyde and Acetaldehyde)

**Post:**
I will be grateful if you can help me on the following. According to a text that I have found, one can make formaldehyde and acetaldehyde with a process called katalytical dehidrogenation of alcohols.

(please excuse my spelling, the text was not in English)

For formaldehyde methanol is used and for acetaldehyde ethanol. It says that the alcohols is passed over a HOT copper catalyst in vapor form.

OK Now I have a question. If I take a copper pipe (thin and very long) and coil it and the pass the alcohol vapor through it while the coil is being heated very strongly over a gas flame and then distiling the product, will this give me the desired product? Or should a special kind of copper be used?

---

### Author: dlwdaw
**Frequent Poster**

**Post:**
be careful with gas stove, you could ignite the alcohol vapor.....

------------------
~ dlwdaw

"Tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting
Thats the process I was going to try. I know what process you are describing, but I do not know what form the copper is in. If I were you (and I am going to try this experiment myself someday) I would stuff some copper sponge (available at the grocery store, its a scouring pad) into a copper pipe and hope for the best. Sometimes they use special finly divided powers or micro porus materials, the success of a catalyst is dependant on the available surface area. Pipe has very little surface area, the sponge has a lot more. It all depends on if this reaction is fairly rapid or not.

You may need to get the catalyst very hot, similiar to the way it is for nitric acid, glowing red hot. In which case all you need is a bit of copper wire coiled up in a flask, the heat of the reaction would be sufficient to keep it hot. If using the tube, you do need to blast it with a torch to get it very hot. Do be careful, I can not say at which temperature it needs to be, a runaway reaction could occur.

Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

An old posting covers the apparatus needed for this sort of thing. Go to http://theforum.virtualave.net/ubb/Forum1/HTML/000099.html and substitute the aclohols for acetone. The advantage to an electrically heated reactor is even, reproducable heating. If you overheat the alcohols, you'll get gases and steam.

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Mega i do not know if the copper sponge that you are talking about will work. The only copper sponge that i know of that is used for scouring is not real copper, it is an alloy(goldish colour) I haved decided that im going to use something other than the coil. i am going to take a thick pipe and then make a in and out let and fill the hole thing with snipperd copper(red colour) whire and let the vapour pass through it. It very pure copper and there will be a hell of a lot of surface area of the copper to be in contact with the vapour.

I am real bussy the last few days but i think i will have some results in the next two weeks
<table>
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<tr>
<th>Author</th>
<th>Topic: Gasoline</th>
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</thead>
<tbody>
<tr>
<td><strong>Ho ju</strong></td>
<td>posted December 29, 1999 10:54 PM</td>
</tr>
</tbody>
</table>
| Frequent Poster| If you confined gasoline in, say, a pipe with one end cap on it and rammed another pipe down the opening (assuming the the two pipes were fairly flush) so that you applied alot of pressure to the gasoline and compressed it, would the gasoline inside the pipe explode, or not? also if so, how many PSI is need to make gasoline do this?
|                | -Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!! |
| **Fjp92**      | posted December 30, 1999 12:08 AM                                            |
| Frequent Poster| I dont think gasoline will explode. But dissel sould if it is in its vapour form and compressed high enough. That is how dissel engins work if im not mistaken, the fuel ignites bu it self when it is compressed by the piston. |
| **HMTD Factory**| posted December 30, 1999 12:40 AM                                              |
| Frequent Poster| Well petrollium itself is formed under ground under heat and pressure so I would say it won't explode.
|                | But acetylene gas will explode when compressed, the acetylene gas cylind you see actually just dissolve acetylene gas in acetone, they can't comprress it. |
| **MHR**        | posted December 30, 1999 06:03 AM                                             |
| unregistered    | ANFO in which proportions he must be used?. Can he be used the Kerosene? . Does he be detonate with AP? |
petrol as with any other fuel that isn't an "explosive" needs oxygen to explode.. diesel engines work by compressing air so fast as to reach the ignition point of the fuel hence igniting it, try pouring some diesel into the chamber of an air rifle .. heh heh ... good stuff...

Ho ju
Frequent Poster

posted December 30, 1999 12:30 PM

i do not know about pouring it into the chamber but if you put a drop of diesel behind the pellet and shoot it, you get some cool shit going on. faster pellet, bigger bang and some smoke 🙄🙄 the only downfall is that, given time it will wreck the inside of the gun, mainly the pressure chamber, or more specifically the o-rings that seal it)

-----------------

-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!

[This message has been edited by Ho ju (edited December 30, 1999).]
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Mixing chemicals...a new crime?</th>
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</thead>
<tbody>
<tr>
<td>rjche</td>
<td>posted December 21, 1999 09:57 PM</td>
</tr>
</tbody>
</table>

ABC news this date announced that USA teens were arrested for mixing chemicals. No identification of which, and although there is no such crime to make a valid arrest on, it hit national news time.

The USA media is now pulling out all stops to harp on terrorism and anything they can link to terrorism is being played up big time to take the US public's mind of the looming Y2k disaster. The propaganda and diversion is to forestall an expected bank run and other problems.

The government is planning secretly and not so secretly for very large scale martial law type activities. They need those to bolster their new world order agenda of fully disarming US citizens before they lay the last few planks (more like 2x4's) aside the heads of gullible US citizens.

The point of this post is we all are chemical mixers. Police who are ignorant technically at best, and abysmally so at worst, tend to make arrests without concern for statutes and probable cause. The USA system works on an extortion system, that forces the innocent person wrongly charged with something that is not a crime, to plead guilty to one of the standard crimes, in order to escape prosecution in a system that is in anarchy and chaos. Most, especially young persons who have no kilobucks for a shyster, must use public defenders who are paid extortionists whose duty is to scare the client enough to force him to plead guilty to some crime, and anything will do. That exonerates the stupid police who ought never have made an illegal arrest, and saves their bacon, and currys debt which the local politicians can use to prevent arrest of their friends, who all too often are drug lords and their gang members.

So the environment is hostile to chemistry hobbists, and times are kinda like they were back in Galileo's time when one could be burned at the stake for claiming the earth went around the sun when the government said it didn't.

So, I advise that you do your loud noises in remote places, and do be very careful transporting your pyrotechnic inventions,
especially in USA, Canada, and maybe some other countries who are prone to copy cat USA media propaganda campaigns.

Above all in USA do not keep mixed potions which are capable of fireworks or explosive uses around where searchers could find them if a nosy neighbor turned you in.

It is considered a crime in the USA to possess any high explosive that you made yourself. No it isn't a statute, but the baby burners (BATF) do not go by statutes, but go by what will get them on the evening news as protectors of the public from terrorists.

The result could be a blem on your reputation that cannot be removed the rest of your life.

It amounts in the USA to canceling your citizenship, and turning you into a subhuman species of citizen, called a felon. There is a growing trend to create as many of those as possible now to feed all the new detention camps they built to work the factories being built alongside them.

So, do not proceed as if you have "rights" for in the USA today no one does. Proceed as a mouse in a dog pound, as another post put it.

When buying chemicals try to get commercial used ones at farm stores. BE aware that all USA chemical supply houses are not monitored by BATF and FBI, and they are under federal rules about putting false entries on their sales bills as to whom they sold stuff to.

A clear warning that they are doing federal tricks with the billing is when they hand you the bill and want you to list on it your company or your name, which brings the transaction under the 1001 statute which says any false statement made on any written instrument that ultimately ends up in the hands of government officials or others spending government funds, is a misdemeanor. That includes lies told investigating agents also, so they always come in pairs to prove you lied at least once. Then they threaten you with a 1 year sentence and big fine if you don't confess to something that will get you later a ten year sentence, etc. Yes they lie that they won't lay that other crime on you, but after you talk they do it. Then they tell the second lie and tell you they will not impose its hugh sentence if you will turn in several of your friends who have been doing the same kind of stuff. When they sucker you in on that they usually stiff you anyway, for they are after publicity and a show of how well they are performing, and tho hell with their word, and integrity.

They'll even extort your parents so you have both cops and parents urging you to "confess, its good for the soul" (but hard as hell on the body, which they leave out).

Try not to store stuff at home which is the first place they search if they get onto your case. Forget warrants, they don't use them much anymore.
Do not try to talk yourself out of a situation. The more you talk the more clues you give them and each clue allows them to claim you enhanced the suspicion, till they can arrest you (under their anarchy) based on what you tell them.

Ask any lawyer what you ought do, and most will tell you to keep your mouth shut and say nothing at all. Name and that's it. Let them to ALL the talking and you do NONE of it.

They will threaten, lie, be nice, be angry, and all things to get you to break your silence. Break it and you will be convicted of something. After you give your name, say you don't want to talk to them at all, and shut up. If they persist and arrest you demand a lawyer before you say another word.

When you get the lawyer, tell them to talk to him about anything they want to know. Do not cooperate. All cooperation will be used against you. They will have more than one present and will try also to lie that you said this or that when you didn't. Say nothing. Sign absolutely nothing. Admit nothing. If they catch you with explosives, so not admit thats what they are, for you may have bought a lot of chemicals at a flea market, and had no idea what some of them were. If you admit they are explosives you are guilty of possession. If you do not admit it your shyster can later claim you had no knowlege they were such and therefore you had no intent to violate the law, and you can get off. Anything you say before or after you talk to a lawyer can tie his hands as to his argument in court as to what your side of the story is. Saying nothing will give him maximum room to move around.

Nuff said, these are hostile times to all intellectuals. Idiots run the government, and have hired criminals to enforce its laws and edicts. Insanity reigns. Watch your ass, or you may lose it.

---

Dr. Zayus
Frequent Poster

I'm back!

well, the person who posted this probably doesn't know me, but i'm the guy who has been telling everybody to chill.

You seem to be an intelligent individual, and you have some good advice, which should be applied most of the time. But your overreacting.

Y2k is meaningless. Nothing is going to happen except a bunch of frustrated computer users tying up tech support for a few weeks. There will probably be a few riots. The police will probably crack down on a few parties. And there may even be a few terrorist attacks by religious zealots. But nothing is going to change, as much as maybe we want it to.

The US government is not a omnicient being with eyes and ears everywhere. Cops are just people who have had some training,
wear a uniform and do what the boss tells them to. There are no heroes, no villains, just a lot of very confused people.

From the minute you are born, society begins to shove its ideology down your throat. The only reason you have to be afraid is if you believe it.

Cops are not boogy men who can read your mind and know when you are doing something illegal. They are a mix of individuals. Some are gloriously deluded, others are totally cynical and uncaring burnouts, but most are somewhere in between. They became cops because they thought they were doing the right thing. Most cops will not search your house without a warrant. Most cops won't arrest you unless you have committed a crime or you pissed them off. And they CAN'T prosecute without some form of evidence or testimony, true or false.

If you've had bad luck with cops, it's because you were unprepared. First, show respect. Be genuinely courteous, and be as cooperative as you can be. They want you to give them praise for "upholding the law", and they want you to respect their authority. The average day in the life of a beat cop is so screwed, that if you were to walk a mile in their shoes, you would do pretty much anything to get back in your own. The majority of their time is spent doing paperwork, harassing snotty and indignant teenagers, (Maybe rightly so, but still), reporting to the same abusive and drug abusing homes again and again, powerless to do anything, and wishing they were dead. Even if cops aren't the sharpest tools in the world, you could at least admire some of them for holding on to their ideals for more than a few years.

The real problem is that your both stuck in the badguy/goodguy mentality. Cops think we are criminals, and you think they are the representation of a repressive and evil totalitarian state. I'm at a loss to say who is more deluded. But explosives are illeagle for a reason. They have to be. If every ignorant lunitic who decided he wanted to make three thousand pounds of nitroglycerin was free to do it, then there would be a lot of dead people. People are to ignorant, lazy, and self serving to make any form of government without a peace keeping force feasible. If you really want to be free, you have to accept the fact that the rules are turly meant to be broken, and that you have to pay the consequences.

The government is a corrupt, oppressive institution, yes. But so is every other government. If you fancy yourself an outlaw, the you have to take action. So you can bitch and moan all you want, throw your hands up in the air like a weekend revolutionary and say, "eh, what are you going to do?" or you can do something about it. Which is it going to be?

---------------------
KABONG!
Doh!
Dr. Zayus
There's no "eagle (bird)" in "illegal (crime)". "ignorant lunitic (ignorant lunatic)". "totaloran (totalitarian)". Etc, etc.

Check your spelling you "ignorant lunitic". That's what the edit function is for. USE IT!

"The knowledge that they fear is a weapon to be used against them." www.50megs.com/nbk2000

Well the authorities must have gone too far.

Cop: Freeze, what are you mixing?

Citizen: What's wrong epoxy A and epoxy B?!

Cop: That's it, you are under arrest!

Citizen: Hey, I ain't doing nothing wrong... (Handcuffs click).....oh, man.

Just to mock it.

I don't think he is overreacting at all, that is exactly what the gov't goons do nowadays. An unfortunate and sad truth, people are for it though, they see the soldiers at work catching those loathsome terrorists next door daring to mix chemicals together. Which is illegal. No, its not illegal to have em or to mix em, it is illegal to have "intent." Thats how they get you, they can, will, and have arrested people for "possession" "conspiricy" and those very difficult to disprove cases. Thats why they work so damn hard to catch you in a "lie" or other vague law, it hardens their case against their other alleged misdeeds.

It is legal to have sulfuric acid

It is legal to have nitric acid

It is legal to have toluene

You can be arrested for having these 3 items

You can be convicted if you have these items together

Thats how it works. What jury today would think you were not
Planning to make TNT (despite the fact that you may have had 50 other chemicals in the area)? They can stretch the law pretty far.

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Visit Megalomania's Explosives and Stuff at http://surf.to/megalomania

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It is true that cops are not everywhere. It's when you are where they are that things get hysterical in a hurry. If you are over 16 watch your step. You can end up being tried as an adult and getting a permanent felony record.

Right now the USA gov is using terrorism fear as a diversion to keep the public's mind off what they ought be doing to prepare for problems a month from now. This includes going hyper at ANYTHING the locals can call dangerous, or terroristic. They need publicity now and they will ruin your life to get it. Just be careful.

Remember cops lie under oath all the time. They also flake people they don't like, which means faking evidence on them, and arresting them on false probable cause, and then lying in court to make it stick. This is common in ALL countries, and USA is becoming one of the worst.

A book called the "Outlaw's Bible" by an ex con, says to study the law you are going to break, and by small changes in how you go about it you can reduce the severity of punishment greatly. Then if all goes wrong you are not roasted to a burnt cinder, but may come away with some parts still working.

Making fireworks that contain more powder than the stuff you buy in stores is illegal. Not only are the works illegal, but the assembling of the stuff is illegal, as is the actual making of them. You have to have a BATF license in USA to do these things legally. They can't enforce this though for too many people are doing it, but they do pounce on the ones who make a big enough noise or disturbance to attract their attention. Could be a neighbor calling their 800 hot line to say a nut neighbor is making explosives. That will bring much hurt on you.

You are probably very wrong about what is going to happen in the next month or so about the y2k thing. Look at what government is doing not at what it is saying. Government is going underground into battle bunkers even today. Military vehicles are being moved around like war mobilization. All military are on full alert, and ON DUTY. Pay attention, Gov really thinks all hell is going to break loose, and so do the people who were trying to fix the computers. They say all the companies are lying like crazy about being fixed. They can't tell the truth or their stock will dive, and the bosses of those...
companies are heavily loaded with stock and will lie to keep it up as long as possible. When it does cave, they will say it was just the general y2k thing, and not their own stupidity and dishonesty that did it.

Remember, right now government is looking for press fodder. Anything will do. If they notice your activities they may make you a useful victim, and you can see your name smeared on the evening TV news. You will also learn that you are a nut, a terrorist, a whacko, etc. The folks who know you will not be allowed to say their side of it on TV.

Rjche is a fairly knowlegable fellow on the other posts I read of his, mostly on y2k forums. If I was mixing chemicals I would be much more careful and paranoid right now than normal.

These are crazy times. The governments of several nations have technically gone insane.
In those nations with constitutions, and individual rights, they are not being respected anymore. Constitutions have been overthrown as a fact, although governments still claim they respect them.

However you may desperately need the knowlege you get in forums in a few months or certainly in a couple years, for many things are about to blow, and they have nothing to do with y2k. That was just another brick on the chains of a dying government.

Take Care. Paranoia when entering the gates of hell is not a bad policy.

IP: Logged

All times are ET (US)
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Zink</th>
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<tbody>
<tr>
<td><strong>Fjp92</strong></td>
<td>posted December 22, 1999 04:49 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>Does anyone know if I can use zinc in any fuel oxidizer mixtures. Can it be used in rocket fuels instead of aluminium or magnesium? I would be glad if anyone can help!!</td>
</tr>
<tr>
<td></td>
<td>IP: Logged</td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td>posted December 22, 1999 07:12 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>ZINC! Please at least spell the elements correctly. And it can be used mixed with sulfur as a rocket propellant. I don't know the proportions at this time. I saw it in the amateur scientist section of an old (1950's) &quot;Scientific American&quot; magazine. Also reacts with water when mixed with ammonium chloride (so I've heard).</td>
</tr>
</tbody>
</table>
|                   | "The knowledge that they fear is a weapon to be used against them."  
|                   | www.50megs.com/nbk2000                                                      |
|                   | IP: Logged                                                                  |
| **HMTD Factory**  | posted December 22, 1999 07:16 AM                                            |
| Frequent Poster   | Yup, Zinc and Sulfur (the recipe says 1:1 by weight), pressed hard and firmly into a tube to make it a small rocket fuel, some guy killed himself because he packed it loosely, he was just using a thick paper tube, don't mess with it. |
|                   | Zinc powder kinda explode with sparks when ignited, thats a plus, it's heavier than Al and Mg, thats a minus. |
|                   | Once I filed some zinc, put it in a deep steel tray, then heat it above a gas stove, using pliers to hold it suspended. 'cuz the flame is covering a larger area than the tray, so the tray is kinda surrounded by the hot air, the powder didn't meet with the flame but there's a cloud of spark keep going on slowly 1" above the tray, which is nice if the light is off. |
|                   | IP: Logged                                                                  |
Sorry about that spelling. In my language we use the k instead of the c. It is kind of difficult for me cause the spelling of most of the elements is almost the same in English and Afrikaans with here and there things like c and k that differs. My classes is in English but i study and make notes in Afrikaans cause then i remember better and this sort of fucks around with my spelling.

Question? Will Al displace Zn from a Zn salt solution? I tried and it didn't work. Al is the more reactive and therefore it would if i am not mistaken. But sometimes Al get pasive But that is only when there is something with oxygen in it that can react with it.

I tried that Al-replace-Zn thing before, doesn't work at all, if you wanna get zinc metal, try to strip some Zinc-Carbon battery, that's old style battery before alkaline ones, it better be used batteries, otherwise you short the battery accidentally, it explodes.
heat of formation of zinc oxide is:
ZnO= 84 kilocal / formula wt or
84 kilocal / 81 grams
or... 1034 calories per gram of ZnO made.

heat of formation of aluminum oxide is:
Al2O3= 389 kilocal / 102 grams
or 3813 calories per gram Al2O3 made

So, Zinc will work but there will be only about 1/4 the energy available from the creating a gram of ZnO compared to Al2O3

Zinc sulphide is 46 kcal / 97 grams
or 484 calories per gram of zinc sulfide

However many explosives only produce about 500 calories per gram of explosive which is the same as the weight of the sum of all products created when it "goes"

When making rocket propellants packing density is critical, for it is being used to force the material to burn on the end of the packed cylinder ONLY. If anything happens to allow flame to go down the sides of the stuff or to force itself into the powder that's too loose, burning will go berserk, and pressure will get enormous, the container will burst, and baaaadaad things will happen to anyone in the vicinity.

The ability of Zinc and sulfur to make a propellant is that the zinc sulfide probably leaves as a gas, which quickly condenses, but that happens outside the nozzle, after its already pushed the rocket.

\[ \text{Zn} + \text{S} = \text{ZnS} \]

65gms + 32gms = the balanced mixture

A former poster gave the ratio as 1:1
which is 65 gms Zn, and 65 gms S

In this mix 65 gms Zn would consume 32 gms of the sulfur and leave 33 grams sulfur to be turned into gas by the heat of the burning.

Thus this mix would burn much more slowly than the balanced mixture, and also have much more gas to eject (and its added weight which would give more push). Someone probably experimented with many burst rocket motors to find that if you kept adding too much sulfur, the blast got less, and at the 1 to 1 ratio IF YOU FOLLOWED THE DIRECTIONS ON HOW MUCH PRESSURE TO PACK IT AT, it would not burst the rocket motor.

Remember, rocket propellants are an ART, more than a science. How you do it is as important as is What you do.

Safety around rockets goes up as the square of your distance from them. Do have a lot of distance between you and them, when the
The ratio for rocket propellant is 3:1 sulfur and Al. Which one is the 3 and the 1, I don't recall at this time. It can be found in a copy of scientific americans amateur scientist book form the 60s that can be found in most large libraries.

"The knowledge that they fear is a weapon to be used against them."

www.50megs.com/nbk2000
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<tr>
<th>Author</th>
<th>Topic: jar bomb</th>
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<tr>
<td><strong>TERROR</strong></td>
<td>posted December 08, 1999 07:01 AM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>does anybody know about jar bomb made by potasium per megmate and gasoline i tried it with kmno4 bought from medical store and gasoline from a motorbyke.but when i smashed the jar against the wall there was no explosion. so pls anybody can tell me about the full procedure to make this bomb i read the recipro from an anarchy file.and it said to use kmno4 solution is it the mix of h2o and kmno4 or something special.i want to make this bomb so pls help me out.</td>
</tr>
<tr>
<td><strong>nbk2000</strong></td>
<td>posted December 08, 1999 10:45 AM</td>
</tr>
<tr>
<td>Frequent Poster</td>
<td>That whole thing with the gasoline in a jar bomb is total bullshit. It came out of the anarchist cookbook. A total piece of shit. Stick with the tried and true.</td>
</tr>
<tr>
<td></td>
<td>&quot;The knowledge that they fear is a weapon to be used against them.&quot; <a href="http://www.50megs.com/nbk2000">www.50megs.com/nbk2000</a></td>
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<tr>
<td>Frequent Poster</td>
<td>You gotta stop doing that Terror, if the bottle will ever explode, it's the moment you put the purple salt in, it didn't went off, but there is such potential. Yup, the anarchy book is wrong, it gives info trying to damage those who try.</td>
</tr>
<tr>
<td><strong>Xaja</strong></td>
<td>posted December 27, 1999 08:55 PM</td>
</tr>
<tr>
<td>A New Voice</td>
<td>Yeah I tried that heaps. What a fucking crock of shit. Like most of that book. I mean, smoking banana skins and peanut skins? I'm glad I didn't try the nitroglycerine recipe!</td>
</tr>
</tbody>
</table>
glock

A New Voice

posted December 31, 1999 02:30 PM

TERROR,

try potassium permagenate and glycerin...
ive never tried it, but my friend says hes done it and it works...he says he mixes it, caps it in a jar, shakes it and sits it down (dont smash it) and it will explode in about 30 seconds, let me know if u have any luck...
be safe...

-glock

IP: Logged

dlwdaw

Frequent Poster

posted December 31, 1999 05:30 PM

NO,
KMnO4 and glycerin spontaneously combust wen mixed together,
I havent tried it, so I dont know if it iwll explode, but if it can it probably will when you are setting the bottle down...
acetone peroxyd is so much easier, and less risky(I cant believe I just said that about AP) AP can explode, but only at high tempuratures....
glycerin and KMnO4, they catch on fire spontaneously, you dont know when they will cath fire...

---------------------
~ dlwdaw

"Tick, tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting

IP: Logged

Jolly Roger

Frequent Poster

posted January 01, 2000 11:31 AM

NBK - I totally agree with you that the anarchists cookbook is a load of shit. There are kids in my school aged 11-15 with that stupid book (no, i am not a some stupid prick trying to look cool by using the Jolly Roger name, i have *always* used that name before i ever heard of the AC) The other thing i hate is the 'hOw tO mAkE kEwL bOmBz' bullshit, the people who write that crap should have their hands cut off, for being such ignorant bastards. I have been called an anarchist, and other things like that, but i DONT blow things/people up. I like chemistry as a hobby, and i suspect *most* of us on this forum think the same way - in that we wouldn't go around mindlessly (SP?) killing people.
Sorry if i've waffled/offended anybody, just had to get that out for Y2k! 😊

IP: Logged
the only saving grace that the AC has is maybe just maybe the sections it has on weapons. like the garrot. the garrot has become my fav. "Silent option" all because i read about it in the book. Other than that it is pure and total BS

-------------------------
-Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: HMTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>How heat and shock sensitive is HMTD really? Much more than Acetone-Peroxide?</td>
</tr>
<tr>
<td>darcey</td>
<td>im not really sure how heat and shock sensitive HMTD really is but it will detonate if it comes in contact with a flame or even a hot piece of wire (i usually use a sparkler for fuse if i don't have any pro blasting fuse and it works fine). I once got a tablespoon of HMTD in a soft paper casing and taped it to the bottom of a brick, i rigged up a little dropping device (stick and string) and set it up so the brick would fall when i tugged the string. The brick weight was 2kg and i dropped it from a height of 30cm. It went off with a large bang. So it put it bluntly, its very heat and shock sensitive but if your careful you will be fine. I don't really fuck with AP that much (only made it once) i don't rally like it so i could really tell you which one is more sensitive. NBK2000 or Mega would know, ask them.</td>
</tr>
<tr>
<td>Ho ju</td>
<td>not to detract from the question about HMTD... if you did the same test (you know with the brick) how big would the weight have to be to do that to AP say if you hoisted it up 3 feet in the air?</td>
</tr>
<tr>
<td></td>
<td>-------------------------- -------------------------------------------------</td>
</tr>
</tbody>
</table>
|                | Knowledge is power, power leads to corruption, corruption is a crime, crime doesn't pay. So if you know to much you will go broke!!!
| **HMTD Factory**  
Frequent Poster | posted December 31, 1999 01:26 AM |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>They are very very touchy, I hardly lose one eye (hit 5mm away from my cornea) to them, they are totally not what you think, they are like going off whenever they want, so sensitive. I hammered some using just little force, I heard cracks from a few crystal.</td>
<td></td>
</tr>
</tbody>
</table>

There is a test for explosives around their shock sensitivity, by dropping them from height, see form how high will they explode when dropped, not widely available data. |

| **AP**  
A New Voice | posted January 01, 2000 09:15 AM |
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>NBK2000 can you say me how much more HMTD shock and friction sensitive is than AP?</td>
<td></td>
</tr>
</tbody>
</table>

| **dlwdaw**  
Frequent Poster | posted January 01, 2000 12:18 PM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AP is more friction sensitive than HMTD. not much but there is a difference. also AP ignites faster than HMTD, if you lay a very thin layer of each on a piece of paper, AP will go off first, then HMTD.</td>
<td></td>
</tr>
</tbody>
</table>

-------------
dlwdaw

"Tick, tick, tick, tick ... Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting |

| **AP**  
A New Voice | posted January 01, 2000 07:16 PM |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I only used AP and I want to know which one is better and more safety.</td>
<td></td>
</tr>
</tbody>
</table>
I've never used HMTD, so I can't say from personal experience how sensitive it is compared to AP. But, I never had an accidental explosion with AP (and I wasn't too careful with it either) so I would say AP is OK. Just treat all primary explosives with care and you'll be alright. Heavy leather gloves will stop the small particles and prevent flash burns too.

A good habit to get into is to not hold primary explosive containers with your hand. Use kitchen tongs with rubberized tips instead. Small amounts of explosives only have a blast effect within a couple of inches. So if your hand is 6 inches away from an ounce of HMTD or AP when it detonates, you'll probably have some shrapnel in your hand, but at least you'll still have a hand.

I carried detonators by the fuse, not touching it until actually placing it in the charge.

-------------
"The knowledge that they fear is a weapon to be used against them."
www.50megs.com/nbk2000
<table>
<thead>
<tr>
<th>Author</th>
<th>Topic: Fuck this place!!!!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PryoTek</strong></td>
<td><a href="https://theforum.virtualave.net/ubb/Forum1/HTML/000321.html">Image</a> posted December 24, 1999 04:04 AM</td>
</tr>
</tbody>
</table>
| Frequent Poster | I am trying to get sulfuric acid i can not buy it 😞
|                 | What's the best way to make it?
|                 | thanks

<table>
<thead>
<tr>
<th></th>
<th>[Image]</th>
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</thead>
<tbody>
<tr>
<td>[Image]</td>
<td>[Image]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blaze</th>
<th>posted December 24, 1999 04:29 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td>wont they sell it too you or cant you find it? I walked into a battery shop and asked if they had sulphuric acid, and they laughed at me..as if to say &quot;of course we've got bloody sulphuric acid&quot;.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PEACE</th>
<th>posted December 24, 1999 04:58 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td>blaze r u in australia? if u are then which shop did u go 2 and did they sell u sulfuric acid? thanx</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMTD Factory</th>
<th>posted December 24, 1999 09:18 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent Poster</td>
<td>Heehee, cook battery acid.</td>
</tr>
</tbody>
</table>
whats up with the title?
wanted someone to read it for sure?
and h2so4 is not available in car stores in the USA, I asked for it and they laughed at me too. but this was more of a
"hell no you fucking unibomber"

~ dlwdaw

"Tick, tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting

That's bullshit. My friend owns a mower repair shop and he buys battery acid in a 5 gallon box right over the counter at a battery shop. No questions asked. In california, USA.

"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000]

 thats not bullshit here!
I went to supertrack, and asked for battery acid.
well since I am young and even if they did have it they would have said no, my mom asked(yeah she's really nice) they laughed in her face, I felt like telling them to go fuck themselves, but I didnt.
I checked shop after shop but they all didnt have it.

~ dlwdaw

"Tick, tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris
columbine shooting

IP: Logged
yes, mitchell batteries, in Australia.
yes they sold it to me ... im 20...

any lead acid betttery shop is SURE to have it, they took me out
back where there were great tanks full of the stuff, few bucks
for 4 litres was least i could get.

You can make Sulfuric acid with cooper vitrol
or Aluminum sulfate. Wenn you heat it in an iron destilliller and
collect the so3 in an water filled container it will form H2SO4.

i purchased 93% pure sulfuric acid (which is boiled shortly to
get 96-98% pure) from a hardware store in the drain cleaner
section, 1/2gallon was like eight bucks or so. = .]

Can you say where you live überchlor.
And the name of the hardware store please.

For H2SO4 (sulfuric acid):
If it's not concentrated (like for batteries, this is usually 30% )
and you need it concentrated boil it on the stove until it stops
boiling and starts smoking. Be careful of the conc shit, burns
the benchtop nicely.
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>ubercchlor</td>
<td>posted January 01, 2000 03:16 PM</td>
<td>The hardware store was &quot;Home Depot&quot;, almost any hardware store should have it, don't ask employees for Sulfuric Acid just look under the Drain cleaner section. Look in the labels on their Drain cleaners, if it has Sulfuric acid it will say so. The bottle I got was wrapped in plastic, it says this acid is 93% concentrated, the acid has a brown tinge but it should still work for your experiments. The concentrated sulfuric acid in Chemical shops is an even darker brown color, they also have it colorless but this is more expensive. Just be careful when handling the acid (Safety splash goggles, gloves) it especially corrodes materials which are wet, i got a drop of boiling concentrated acid on my skin as it dissolved it instantly with great pain.</td>
</tr>
</tbody>
</table>
| dlwdaw      | posted January 01, 2000 04:53 PM | I can't find h2so4 in auto shops, but I did find it at home depot, the brand is, "instant power guaranteed" it is in a white bottle with orange writing, a friend said he measured the specific gravity, and it was 98% ....  

-----------------------
~ dlwdaw  
"Tick, tick, tick, tick ...Haa! That fucking shotgun is straight out of Doom"

-Eric harris  
columbine shooting |
| nbk2000     | posted January 01, 2000 08:08 PM | I can buy a 2 gallon box of 35% sulfuric acid(not hydrochloric, I know the difference) for $4 at my local Raley's supermarket in the pool chemical section. I feel sorry for you guys if your having such a hard time finding this stuff where your at. Check K-Mart and Wal-Mart in the pool supply sections.  

-----------------------
"The knowledge that they fear is a weapon to be used against them." [www.50megs.com/nbk2000](http://www.50megs.com/nbk2000) |
<table>
<thead>
<tr>
<th>Username</th>
<th>Post Date</th>
<th>Reply Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>PryoTek</td>
<td>January 02, 2000 11:14 PM</td>
<td></td>
<td>Hay blaze whear in oz do u live waht state? Did u just ask for surfuric acid over the counter? thanks</td>
</tr>
<tr>
<td>The Juice</td>
<td>January 15, 2000 02:39 PM</td>
<td></td>
<td>Sulphuric acid is one of the most common industrial chemicals in most country's, so there should be some available if you look hard enough. I don't know about in the US, but here in the UK you just can't buy the stuff over the counter. I haven't seen anything 'useful' in British hardware stores anywhere. cheers, Juice</td>
</tr>
<tr>
<td>DeathShadow</td>
<td>January 15, 2000 07:23 PM</td>
<td></td>
<td>I got sulfuric acid 93% 1 quart for $6.99 (u.s dollars), i live in california btw im only 15 years old</td>
</tr>
<tr>
<td>primordalgo</td>
<td>January 27, 2000 03:38 AM</td>
<td></td>
<td>Go to any plumbing supply / hardware store and look for &quot;proffessional&quot; strength drain opening liquids. If in doubt read the backs of the bottles. It will be either KOH or sulfuric acid anywhere from 70-95%</td>
</tr>
<tr>
<td>HMTD Factory</td>
<td>January 27, 2000 06:01 AM</td>
<td></td>
<td>maybe it's NaOH</td>
</tr>
</tbody>
</table>

All times are ET (US)