

## BASIC PRINCIPLES OF EXPLOSIVES

It is a well-known fact that matter does not vanish, rather it changes form, e.g. it changes from liquid to gas. Many of these natural elements have a great amount of hidden energy. Should this energy be harnessed and released, many things can be achieved if utilised correctly.

**The process of changing this energy from one form to another can be called an explosion.** This takes place when we release this inner hidden energy in a sudden and prompt manner, to have an effect on the surrounding atmosphere. Therefore we can say that the explosive is a prompt release of energy, but not every prompt release of energy is an explosion.

Therefore we define the explosive compounds or mixtures as materials that have the following characteristics:

1. An enormous ability to produce gases under extreme amounts of pressure.
1. Enormous capability to produce these gases in a very short or instantaneous period, in order to exert pressure on the surrounding atmosphere.

For scientific reasons we divide the explosive materials into the following:

1. **Flammable materials**, e.g. gun powder
2. **Explosive materials** that require detonation e.g. dynamite

### FACTORS AFFECTING THE EXPLOSION.

1. Oxygen
2. Ratio of the elements (compounds) in the mixture.
3. Pressure and Temperature.
4. Density of the explosive material.
5. Ratio between the size of the explosive material and the container in which it is held.
6. Nature of the container.
7. Material that could have a negative or a positive affect.

### CLASSIFICATION OF EXPLOSIVES.

1. **CHEMICAL EXPLOSIONS:** This is a process where materials convert into great amounts of gases, reaching 10-15,000 times the original size, instantaneously (e.g. 1/10000 of a second), as previously discussed.
2. **MECHANICAL (PHYSICAL) EXPLOSION:** This is an explosion resulting from a pressure build up in a sealed container e.g. gas or vapour release from a pressure cooker, or placing a flammable substance in a sealed container, i.e. the burning will produce gases that cause the container to explode, or explosions from things like gas cooking canisters which can take place if it is pierced.
3. **NUCLEAR EXPLOSIONS:** This is a process of splitting the nucleus of the explosive material, coupled with great amounts of temperature, e.g. the atomic bomb.

## RULES AND REGULATIONS

Most chemicals are poisonous and dangerous to a various degree depending on its type. Chemicals exist in solid, gas, or liquid forms. Some chemicals catch fire easily to produce poisonous gases. Others react with air, water or with each other to produce heat or an explosion; therefore general information about safety can make learning easy and safe.

1. Most of the explosives are dangerous and poisonous i.e. potassium cyanide if injected into the bloodstream.
2. Sulphuric acid ( $H_2SO_4$ ) will burn any organic material.
3. Phosphors burn at  $25^\circ C$  and catch fire upon touching.
4. Potassium chlorate ( $KClO_3$ ) explodes by rubbing it.
5. Some chemicals (gases, liquid & powder solids) react with each other; i.e. sodium exposed to moist air will explode.
6. Read and understand experiment several times before you perform it.
7. Experiments should be done in an open and well ventilated area because most of these experiments produce harmful gas.
8. Always have a container or bucket full of water nearby.
9. If sudden rises in temperature occur and it goes out of control, then just pour the contents into a bucket of water.
10. Always be patient and take your time.
11. Wear mouth mask.
12. Get familiar with the materials you are using.
13. Drink milk after experiments that involve poisonous gases. It has a cleansing affect on your lungs.
14. Follow instructions to the letter.
15. Wear gloves and an apron.
16. Hold bottle from top and bottom so that you do not drop it.
17. Experiments must be supervised by experienced people. This is extremely important.
18. Stirring must be done calmly and patiently.
19. Use small quantities for experimental purposes, (in case of accidents, damage can be easily contained).
20. Don't throw acid on floor.
21. Your nails must be kept cut and clean.
22. Don't rub your eyes or skin, also wash hands with soap at end.
23. Don't be curious with chemicals - don't mix chemicals for the sake of curiosity.
24. Cover containers tightly - don't exchange covers or mix the chemicals.
25. Should an incident occur, notify the instructor immediately.
26. Containers with a screw on lid must be cleaned first.
27. A first aid kit should be available in case of accidents..
28. Keep lab clean and organised

#### **GENERAL PROCEDURES**

1. Store at room temperature  $20-25^\circ C$  in a dark sealed container.
2. Some materials can be stored in water - refer to the chemical characteristic of the particular chemical. This is usually done for storage in hot weather.
3. The ice pack is a container with ice and water in which we place the container required for cooling to bring down the temperature.
4. The hot water bath is used to heat some chemical compounds by placing them in a container, then placing that in hot water to bring the temperature up to required amount, e.g. TNT melts at  $71-81^\circ C$ , or some napalm mixtures.
5. Direct heating method can be used by placing the container directly on the source of heat. Pyrex dishes can be used for this.
6. Indirect heating is used by placing a metal plate over the heat source, e.g. electrical cooker.
7. Stirring is done using a glass or clay stick.
8. Make sure all apparatus is clean and dry before and after use.
9. Never use electrical grinders for grinding chemicals. Use wood or clay pestal and mortar set, but not metal as this may react with chemicals.
10. Always add the heavy material to the lighter material e.g. sulphuric acid to nitric acid, not the other way round.
11. When reading the temperature it should be done a little below the surface where the reaction takes place.

# EFFECTS OF THE EXPLOSION

## THE MAIN EFFECTS

### PRESSURE.

When a charge is exploded it produces large amounts of gases e.g. one cubic centimetre of explosive gives 10-15000 cubic metres of gas in a very short time, measured as 1/1000 of a second. The speed of this is up to 10,000 km per hour, causing pressure @ 108.5 tonnes per cc in the centre of the explosion. This enormous pressure destroys anything within its range.

Pressure has two phases:

- 1. Positive phase** - caused by the outward rush of these enormous gases, which causes the majority of the destruction.
- 2. Negative phase** - caused by the inward rush of the surrounding air to fill the vacuum caused by the positive phase.

### DESTRUCTION.

If we detonate a charge underground or under water, enormous amounts of gases, heat and shock waves are produced which is similar to a minor earthquake. Because the earth or the water cannot be compressed the destruction effects the immediate surroundings only.

If we detonate the same amount of charge in the open air, it will produce the same destructive power and the effects will be felt over a larger distance. This is because the air can be compressed which enables the reaching of further distances, but with less intensity.

### TEMPERATURE.

This effect will vary according to the nature of the explosive material. In slow working explosives it takes longer, which enables it to be more effective on its surrounding. This is because some materials need to reach a certain temperature before becoming effective. These slow explosives give it time to reach the desired temperature. While the detonation with the fast explosives will create more heat and have less burning effect on the surroundings because the speed does not allow the temperature of the material to rise.

## SECONDARY EFFECTS

### 1. REFLECTIONS.

Reflections cause the explosive waves to follow the same pattern as that of sound or light waves. This reflection causes the destructive wave to lose power and get weaker till it vanishes. This characteristic is utilised by the military in digging trenches for defence in warfare.

### 2. BURNING.

Fragments with temperatures up to 3000°C produce fire on contact with flammable materials e.g. petrol tanks. Also the destructive waves can cause electrical currents or shorts that in turn cause fires.

### 3. FRAGMENTATION .

This depends upon the explosive substance, where the explosion caused by the fast material will cause more and even fragmentation, while the slow explosion will cause

less and unequal fragmentation. We can increase the effect by using easily fragmentable metal e.g. shrapnel from military grenades or shells. These must also have the proper thickness i.e. the container, which allows the build up of the temperature and pressure inside, which in turn will speed up the process of explosion, in order for the explosion to take place before fragmentation. This process can be further helped by making grooves in the inside of the container (usually metal for these purposes), e.g. pineapple grenades. Or items such as nails or ball bearings can be used and attached to the outside of the container, also rusted metal pieces or poisonous pieces can be utilised for maximum effectiveness.

It is worth noting that half of the power of the explosion is consumed in the fragmentation process. The other half is used to propel the fragments. Containers will normally expand to one and a half times their normal size before fragmentation.

## EXPLOSIVES

**Explosives** are considered to be the best weapons in guerrilla warfare because of their effectiveness and efficiency. Explosives are chemical elements, compounds or physical mixtures that have the ability to convert to enormous amounts of gases in a very short time (1/1000 of a second) that takes place by external activator. This causes extreme pressure in all directions.

### CHAIN OF EXPLOSION

A chain of explosives is an arrangement of explosive materials where each explosive depends on the one before it, starting from the fuse ending with the main explosion (main charge) to take place and if we miss one explosion of this chain the explosive of the main charge will not take place or the chain of the explosion will be broken and stop. The sensitivity of the material involved in this chain of explosion will decrease the activator, which is the most sensitive material in the chain. To end up with the main charge which is the least sensitive, on the other hand the destructive power resulting from each of the explosions in the chain will increase as we go away from the activator to end up with the main charge that has the most destructive power. For example the explosive chain in the detonator is made of 2 or 3 stages first stage is a flammable material which can be easily excited externally that in turn will cause the activator which is the second stage in the chain to blow up creating enough destructive power to start the explosion in the booster stage which is less sensitive than the activator but has more power. This destructive power is enough to detonate the main charge, which is less sensitive than the booster but have more destructive power. The idea in the chain of explosion is to start it with the material that can be easily excited.

### CLASSIFICATION OF EXPLOSIVES

Explosives can be classified according to the following

#### 1. THE NATURE OF EXPLOSIVE

- Solid form. e.g. NT, RDX,  $\text{KClO}_3$ .
- Plasticine (dough) form, e.g. C3, C4 and Gelignite.
- Liquid form e.g. Nitro glycerin, nitro methane, and nitro benzene.
- Gas form e.g. Hydrogen ( $\text{H}_2$ ), Natural gas ( $\text{CH}_4$ ) or Hixogene.

#### 2. THE SPEED OF THE EXPLOSIVE

- Fast explosive the speed is faster than 1000m/s e.g. TNT, dynamite.
- Slow explosive the speed is less 1000m/s e.g. gun powder.

#### 3. TYPE OF BOND

- Chemical compounds in which compounds or elements retain characteristics form a new material, which has different characteristics of the original materials, and can not be separated easily .e.g. TNT

- Physical compounds and mixtures that can be separated to the original elements e.g. gun powder.

#### 4. THE PURPOSE AND USE OF EXPLOSIVE

##### ACTIVATORS

Very sensitive explosive used as the first element in the chain of explosion to activate other elements. its destructive power is limited, or very weak. e.g. mercury feliminate, lead or silver azed.

##### BOOSTERS

Less sensitive than activators but has more destructive power, used as 2<sup>nd</sup> element in the chain of explosion chain, to cause less active or weak material to detonate and some types can be used as main charge e.g. RDX, titrayl, nitro-glycerine.

##### MAIN CHARGE

explosive material used to do the destruction needed, main charge is the last in the chain of explosion (e.g. TNT, DYNAMITE) and it makes up the bulk of the explosive materials.

##### NON SENSITIVE

These are mostly salts or fertilisers e.g. urea and many nitrates such as ammonium nitrate.

##### PROPELLANT

Liquid or solid - used in bullets or rockets e.g. gun powder or nitro cellulose. than propels the bullets of the rocket.

##### HEAT

Aluminium powder is used in hollow charges to create great amounts of heat.

##### ILLUMINATION

e.g. phosphor and magnesium.

#### ACTIVATORS

LEAD AZED	$Pb(N_3)_2$
SILVER AZED	$AgN_3$
COPPER AZED	$CuN_3$
MERCURY FELIMENATE	$Hg(CNO_2)$
ACETONE PEROXIDE	$Co(CH_3)_2$
HEXAMENE PEROXIDE	H.M.T.D

##### LEAD AZED

**Definition:** White or yellowish white granulates.

**Characteristics :** explosion speed of 5,300 m/s . Humidity has no effect on it. Very sensitive to heat, impact, and rubbing. reacts strongly with moist copper, producing copper azed which is extremely sensitive, (don't let this reaction happen) therefore lead azed should not be used in detonators,made copper i.e. the detonator of the bullet. lead azed dissolves in acetone, sensitive to light has affect on it's chemical structure therefore it should be kept in dark container that's made of plastic or glass,not metal. It's 4.8 gr/cc. It is less sensitive than mercury feliminate but has more detonating power. doesn't dissolve in cold water, dissolves in boiled water 0.5 gr./Litter . can be stored in aluminium container.

##### METHOD 1

Ingredients:	4 g	SODIUM AZED	$NaN_3$
	6 g	LEAD NITRATE	$Pb(NO_3)_2$
	200ml	WATER	$H_2O$

1. Now get a container (No 1) and dissolve 4 grams of  $NaN_3$  in 100ml of water ( $H_2O$ ).

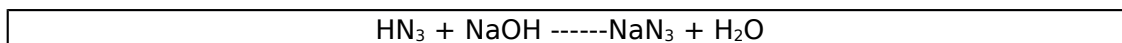
1. Dissolve 6g of PbNO<sub>3</sub> in 100ml of H<sub>2</sub>O in another container (No 2).
1. Pour container No 1 into container No 2. Then pour back, repeat this method to mix. When the chemical reaction starts taking place, yellowish particles (lead azed Pb(N<sub>3</sub>)<sub>2</sub>) start to sink to the bottom.
1. Filter. Then pour some water (H<sub>2</sub>O) on it to clean it.
1. Let it dry in the dark room, then store in a dark container and SEAL IT TIGHTLY.
2. REMEMBER this will blow on rubbing, so if the container has a screw on cap and there is a particle on the part where the cap screws on, it will blow when you put the cap on.

#### METHOD 2

Ingredients	1.	Pb(NO <sub>3</sub> ) <sub>2</sub>	7g
	2.	NaN <sub>3</sub>	4g
	3.	H <sub>2</sub> O	200ml.

Use the same procedures as in method 1. This method is called the hanging method and the product is more sensitive than materials obtained in method 1.

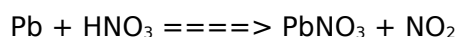
#### HOW TO OBTAIN SODIUM AZED



### LEAD NITRATE

Lead Nitrate is poisonous; very heavy powder; white in colour and highly explosive.

**How to make it:** Put some nitric acid in a container and get some lead (battery poles) and put it with the nitric acid and heat till powder starts to form keep heating until lead completely converts to powder.



#### MIXTURE

PbNO <sub>3</sub>	72%
TNT	28%

#### Notes:

1. Al Powder is used in burning bombs.
1. Mg powder is used in eliminating bombs.
1. NaClO<sub>3</sub> can be used instead of KClO<sub>3</sub>.
1. PRNO<sub>3</sub> (Barium nitrate) is a explosive material and can be used to make fuses (fateel).
1. Liquid rocket fuel is composed of HNO<sub>3</sub> nitric acid mixed with ethanol 5:1 ratio.

#### SILVER AZED(AgN<sub>3</sub>)

**DEFINITION:** White or grey granulates.

**Characteristics:** has the same characteristic as lead nitrate Pb (N<sub>3</sub>)<sub>2</sub>, but less sensitive than lead azed.

**INGREDIENTS:** Same ingredients needed for lead azed, use silver nitrate Pb(NO<sub>3</sub>)<sub>2</sub> instead of lead nitrate (AgNO<sub>3</sub>).

Methods and steps are the same as in making Lead azed.

#### NOTES:

1. Do not store in container until it is completely dry, you can check this by touching with hand don't
1. Or take a very small particle and hit it with a hammer or metal, if the sound is muffled not very sharp it is not dry.

1. Even though the ingredients are the same you will get less ( $\text{AgN}_3$ ) than ( $\text{Pb}(\text{N}_3)_2$ ).
1. Both Lead Acid ( $\text{PbN}_3$ ) and Silver Acid ( $\text{AgN}_3$ ) can be stored in water.
1. Silver Nitrate ( $\text{AgNO}_3$ ) is a solution or a powder used in developing films.
1. We can use method 2 of making the lead azed to obtain silver azed with the same quantities and the same procedures.
1. Silver Azed and Lead Azed can not be ignited using acids.
1. Lead Azed and Silver Azed do not dissolve in water but dissolve in sulphuric acid and acetic acid.
1. Lead Azed reacts with copper so it must not be used in copper detonator.  
Lead azed and silver Azed are the most sensitive activators.

### **MERCURY FELIMINATE - $\text{HG}(\text{CNO})_2$**

White grey or light brown (like sand) particles. Octagonal shape Colour will vary according to the impurities in it. grey granulates are the most pure. Explosion speed 5000 m/s. It's Sensitive to heat, impact and rubbing it will react with aluminium to form aluminium FELIMENATE. Not as dangerous as the copper azed therefore should be used in the aluminium detonator. If Absorbs 15% of it's size Humidity it only burns and becomes less effective, If it absorbs 30% of it's size of humidity it will not blow, it's 4.4g/cc be stored in water, dissolves in ammonia solution, also dissolves in acetone with ethanol. Explodes at 170-175°C.

#### **METHOD 1**

Ingredients: 1. Nitric acid ( $\text{HNO}_3$ ) 100ml  
2. Mercury (Hg) 10g  
3. Ethanol  $\text{C}_2\text{H}_5\text{OH}$  100ml

1. Put 100ml Nitric acid in a container and add 10g of mercury one drop at a time. Then stir with a glass stick, (in hot weather it will mix itself )as this reaction happens it will give a brown poisonous gas  $\text{NO}_2$ . Avoid breathing, if it doesn't dissolve heat it up lightly till mercury start to dissolve we may need to do this in cold weather.
1. After mercury completely dissolve heat the solution up to 55°C.
1. At the same time heat the Ethanol up to 35°C
  1. pour nitric acid into the Ethanol.
  1. Heat this solution to 80°C, or till you notice white smoke - if this happens before 80°C STOP. Put solution in a ventilated area until it stops bubbling. The smoke is flammable it can be ignited with match no explosion just like a Bunsen burner when smoke finish it stop. At this stage you will notice the granules falling to the bottom.
  1. Filter, and then add 15ml of Ethanol and then add 15ml of  $\text{H}_2\text{O}$  to get rid of the acids because acids have a negative affect on the explosion. Check acid by using pH paper. Let it dry in shade. Store in dark sealed container.

#### **METHOD 2**

##### **Ingredients**

Put 10ml of Nitric acid in container and add 1g mercury; stir until dissolved same as before. Sign that dissolving has happened is when brown poisonous smoke ( $\text{NO}_2$ ) colour of solution will change to yellowish green, then add 10ml of Ethanol stir until granules start formulating then filter clean with water and test with pH paper to see that it has no acid.

##### **NOTES:**

1. To get rid of acid we use Ethanol. Mercury feliminate dissolves in acetone. To further clean granules from impurity add a solution of acetone and ammonia ( $\text{NH}_4\text{OH}$ ) to feliminate, this will dissolve granules.
1. To make them appear again add 2 or 3 drops of sulphuric acid or nitric acid then filter and dry.
1. Silver colour is the most sensitive and most pure.
1. Mercury Fulminate doesn't dissolve in water so it can be stored in water.
1. All Mercury salts are poisonous.
1. Should the mixture start boiling after we add nitric acid to ethanol we can add some Ethanol to the solution to stop the boiling.

## HOW TO GET FELLIMINATE OUT OF ANY BULLET

Take killing bit out empty gunpowder, put in its place engine oil put in vice put back the killing bit firmly. Hammer it down this will push the bullet detonator out and then you can get the fulminate through the holes.

### ACETONE PEROXIDE - CO (CH<sub>3</sub>)<sub>2</sub>

Ingredients    50ml (H<sub>2</sub>O<sub>2</sub>) Hydrogen Peroxide.  
                    50ml Acetone  
                    5ml Sulphuric acid(H<sub>2</sub>SO<sub>4</sub>)

1. Add sulphuric acid to the acetone slowly while stirring.
1. Add hydrogen peroxide to solution slowly while stirring.
1. Let it settle for 5-8 hours. You will notice the particles of acetone peroxide then filter it, dry it in dark room away from light, seal and store.

### METHOD 2

INGREDIENTS                      Same as method 1.

1. Add sulphuric acid to hydrogen peroxide slowly while stirring.
1. Add acetone to the solution, After this same steps as method 1.

### NOTES:

1. acetone is found in nail polish remover. Concentration of acetone 35% to 50%.
1. clean it with 150ml H<sub>2</sub>O to remove acid. Also you can use bicarbonate sodium 2% this is the best.
1. you can substitute sulphuric acid with nitric acid this is more powerful but (CO(CH<sub>3</sub>)<sub>2</sub>) produced is less.
1. acetone peroxide loses effectiveness as time goes by, so it should be used within one week.
1. ethanol can be used to get rid of acids, (30ml).
1. hydrogen peroxide can be found in hairdresser shops.
1. acetone peroxide can be detonated using sulphuric acid.

### HEXAMENE PEROXIDE (H.M.T.D)

White granulates, it is 1.57g/cc, doesn't dissolve in water, decomposes at 75°C, speed is 4100m/s, less sensitive than Hg(CNO)<sub>2</sub> but more powerful.

### INGREDIENTS

hydrogen peroxide    9.0 parts (H<sub>2</sub>O<sub>2</sub>)  
hexamine                2.5 parts. (C<sub>6</sub>H<sub>12</sub>N<sub>4</sub>) is powder.  
Citric Acid                4.5 parts.

1. Put H<sub>2</sub>O<sub>2</sub> in container in an ice pack let temperature drop to 0°C.
1. Divide Hexamine into 3 parts and add 1 part to the H<sub>2</sub>O<sub>2</sub> while stirring, maintain temp below 5°C, and then add the second part and the third part while keeping the temp below 50°C.
1. On completion stir for 5mins continuously.
1. Divide citric acid into 5 parts and add as in step 2 same method as before.
1. On completion stir for 5mins.
1. Keep solution in a ice pack for 15-24 hours while reaction takes place.
1. Filter, clean with water 6 times the size of solution use pH paper to check for acids, let it dry, then store in dark cool place away from heat.

### NOTES:

1. After the product is dried it'll look like white powder.
1. Hexamine peroxide and hydrogen peroxide can both be used in impact bombs like grenades.
1. Temperature must be kept below the stated temperature i.e. 1 or 2°C, chemical reaction causes temp to rise so when adding to the container; watch temperature



with thermometer. When it rises above the limit stop; let it cool down then continue drop by drop. Use ice packs to keep cold.

1. Be very slow and patient.

## IMPACT BOMBS

### DEFINITION

Impact bombs are bombs or (grenades) that will detonate upon impact or by friction.

The container used in making these bombs is an elbow joint that is used for water pipes which is threaded from the inner or outer sides so it can be tightened using an element of some sort. Or a piece of pipe that is threaded from both sides in order to be able to close it tightly. This should be done to allow pressure to build up inside the container.

#### Method 1.

Get a container as described above and fill it up to 2/3 using acetone peroxide or hexamine peroxide. Get some metal pieces or ball bearings and put it in the container and tighten the other end tightly.

#### Method 2.

Get a container as described above and fill it up to 2/3 with gun powder that has potassium chlorate as one of the ingredients also you can use acetone peroxide or hexamine peroxide. Get a small bottle that is made of very thin glass as used by hospitals (must be easily broken on impact ). Fill this bottle with nitric acid or sulphuric acid and seal it tightly using glue, rubber, and tape together or get a strong seal (the objective is to prevent acids from leaking). After it's sealed lean bottle with a cloth to make sure there is no acid on the outside of the bottle. If there is even a drop of acid in the bottle it will blow in your hand. Put the bottle in the container and seal tightly. To increase the chances of breaking the bottle we add 2 to 3 pieces of metal or ball bearings.

## BOOSTERS

- RDX -  $C_3H_6O_6N_6$
- Tetryl
- Picric Acid
- P.E.T.N.

### RDX - $C_3H_6O_6N_6$

This is white granules, does not dissolve in water, and dissolves in  $H_2SO_4$  full concentration. Can be used as booster or as main charge. It does not explode, rather burns when ignited. melts at  $207^\circ C$ ,  $1.7g/cc$ .

INGREDIENTS

1-	05g Hexamine.
2-	48g Ammonium Nitrate (chemical, not fertiliser)
3-	57ml Nitric Acid Concentrate (must be 90 % or more)

1. Grind hexamine & ammonium nitrate, separately, then put in container.
1. Add nitric acid slowly. Maintain temp. below  $15^\circ C$ , use ice pack and stop/start procedure.
1. Heat the solution to  $80^\circ C$ . maintain temp. for 30mins. At this stage do not stir or cover the container, it may overheat. Avoid the poisonous brown smoke ( $NO_2$ ).
1. Bring temp down to  $20^\circ C$  by using the ice pack . At this time the particles start forming. In case there is no  $NO_2$  we add some acetone to help the formation process.
1. Let it settle for a few mins in order for the reaction to take place.

1. Filter and rinse using bicarbonate solution 5% con. Use pH paper to check for acids. Dry and store in a sealed container.

#### NOTES

1. Sikloonete and hiksoolete are two other names for RDX.
2. RDX doesn't dissolve in water.

#### EXPLOSIVE FLOUR

This is a simple mixture made of flour and RDX and can be used in different ways. Can also be used as a plasticine explosive. To prepare the flour:

1. Grind the RDX using a glass stick, till it becomes as fine as the flour.
1. Add 80% RDX with 20% flour (in weight) and mix thoroughly using a closed container. Allow to settle for 5mins. NB. This explosive mixture can be stored for a long period of time if it is sealed in plastic container and can also be stored in flour sacks.

#### To use as a plasticine explosive:

Mix 4 measures of explosive powder with one measure of water and detonate using detonator. The end product will look like C4 (which can be easily shaped).

#### PICRIC ACID

Yellow needle like granulates that doesn't dissolve in water. Its melting point is less than 120°C, its 1.6g/cc, explodes at 240-346°C. Sulphur will decrease explosive temperature. Can stand sun heat for months. Can be detonated by a shot. More sensitive than TNT. Is very poisonous. Fatal dose is 0.4g. It is used to fight typhoid fever bacteria. Has a bitter taste.

#### METHOD 1:

Ingredients:

- 1.0g carbolic acid (Crystal phenol)
- 10ml nitric acid
- 10ml sulphuric acid

1. Add sulphuric acid slowly to carbolic acid and stir until carbolic acid dissolves (sol. 1).
1. Put nitric acid in container in an ice pack and add solution 1 to it, slowly while stirring, maintain temperature below 50°C.
1. Heat solution to 80-100°C and maintain for 5-7 min.
1. Pour solution into 150ml of cold water (in one go, don't shake) at this stage picric acid starts forming and colour changes to yellowish green or light green.
1. Let the solution settle for few mins in order for reaction to completely take place.
1. Filter then use bicarbonate solution to get rid of the acids, use pH paper to check for acids.
1. Dry and store in dark container.

#### METHOD 2

Ingredients

- 0.8g carbolic acid
- 16ml nitric acid full concentration.
- 16ml sulphuric acid full concentration.

Procedure same as in method 1

#### HOW TO GET CARBOLIC ACID FROM ASPIRIN.

- Ingredients: 20 Aspirins  
120ml Ethanol

Grind the aspirins then dissolve them in a small amount of water. Then dissolve the whole mixture in ethanol. Filter and dispose of the leftovers on the filter paper. Heat the solution using (hot water bath) until all ethanol has gone. You are then left with white crystals which is carbolic acid .

NOTE: temperature must not exceed 80°C .

### NOTES

1. Picric Acid does not dissolve in water therefore can be stored in water.
1. When Picric Acid burns it produces black smoke.
1. Nitric Acid and Sulphuric Acid has no affect on Picric Acid.
1. Picric Acid melts at 122.5°C.
1. Picric Acid in liquid form will react with metals forming Baccarat of those metals, therefore it is not used in metal containers or detonators.
1. Picric Acid does not react with soldering metal therefore metal containers and bombs used to store Bicric Acid should be coated with that material.
1. Picric Acid is more sensitive than tetrayl and is poisonous and has a bitter taste.
1. If picric acid burned it will produce poisonous gases.
1. Carbolic acid (phenol) is found in powder form white colour.

### TETRAYL- TNT

Yellow reddish granulates, melts at 129.5°C, 1.7g/cc, dissolves in water at a very low rate, dissolves in acids (H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>) and when water added sinks to the bottom, dissolves quickly in acetone and in hot gasoline, explodes at 150-170°C, Poisonous if injected into blood - fatal dose is 2g.

### METHOD 1

ingredients

3ml Dymathil aniline- NN  
50ml Sulphuric Acid, (full concentration.)  
50ml nitric Acid, (full concentration )

1. Dissolve NN in sulphuric Acid maintain temperature below 20°C using ice pack. (check that if it is dissolved put a drop in water if it goes cloudy it is not dissolved keep stirring).
1. Add the solution slowly to the Nitric Acid; maintain temperature below 30°C using ice pack.
1. Heat solution to 40°C slowly.
  1. Add 250ml H<sub>2</sub>O to the solution (at this stage reddish yellow granules start to form; now let it set for about 2 to 3 hours to completely form.
  1. Filter, put granules in container, add bicarbonate solution 5% con. and heat to 40°C, filter again, use pH paper to check for acids rinse with water, then dry and store.

### METHOD 2

Ingredients

12.0ml	Nitric Acid
02.6ml	NN
21.7ml	Sulphuric Acid

1. Dissolve 2.6ml NN in 19.5 Sulphuric Acid and maintain temperature below 30°C. Test to see if dissolved using drop in water (solution 1 ).
1. Add 2.2ml sulphuric acid to 12ml nitric acid (solution 2 ).
1. Add solution 2 to solution 1 maintain temp. below 15°C.
1. Heat to 40°C then bring temp. down to 20°C then pour into 200ml clean water, wait for 30 min. Filter clean dry store.

### NOTE

- NN is poisonous if injected or swallowed.
- Tetrayl is used in land mines and aeroplane bombs.

- Tetrayl dissolves in Acetone and gasoline and is poisonous.
- Nitric acid must be 85% concentration or more, so is sulphuric acid.

## **P.E.T.N**

### **EXPLOSIVE PAPER**

#### **Ingredients:**

PETN, acetone, motor oil, newspaper

Method:

1. Heat acetone using hot water bath till it becomes warm.
1. Add PETN to acetone and stir till it dissolves completely.
1. Repeat procedure until the acetone saturates. You can dissolve 1/3lb PETN in 1lb of acetone before the acetone completely saturates.
1. Add 2% of the solution size of the motor oil. Pour the solution in a flat open container, dip the paper sheets in the solution till they are soaked.
1. Dry the paper over 24hr period. Do not use any artificial drying methods.
1. Detonate using detonator.

P.E.T.N is a booster can be obtained from the cortex cord or explosive fuses.

## **MANUFACTURING A DETONATOR**

A Detonator is a tube made of plastic, rolled up paper or aluminium 5-6cm long and 0.5cm in diameter, It comprises of a flammable material, an activator and a booster, respectively, and a concentrated medium to detonate the charge.

FOUR TYPES:

The difference between the four types is the method of detonation; the materials are all the same

### **ELECTRIC DETONATOR**

1. An electric current detonates this. The tungsten wires emit heat which causes the activator to detonate
2. Get a 1.5 volt bulb, test it, solder wire to the back of the bulb and break the glass shell.
3. Put front bit into tube and rap some tape around it.
4. Fill it with the 10% flammable material then with 30% activator then with 60% booster and seal.
5. Make sure it is full, i.e. it is packed tightly. You can add cotton or cut the tube short to do this.

NOTES:

1. Flammable material gun powder,  $\text{KClO}_3$  and  $\text{C}_6\text{H}_{12}\text{O}_6$  2:1
2. Activator lead azed, silver azed
3. Booster can be RDX picric acid, tetrayl, N.G.
4. total weight of detonator 1-2g .

ANOTHER WAY

Pierce hole in bulb by using a heated needle fill bulb with potassium chlorate and sugar 3-1 then same procedure as before.

## CONVENTIONAL DETONATOR

This is as before except that we use a fuse for detonation. Obtain detonation shell, close from one end, put in contents and insert fuse from the other end and tape up.

## CHEMICAL DETONATOR

This is detonated using an antibiotic capsule filled with sulphuric or nitric acid, providing that you have an activator that will detonate with the acids (acetone or hexamine peroxide or any azed).

Method:

Get a capsule of antibiotic medicine, empty it and fill it with sulphuric or nitric acid close and clean from outside then put aside till acid starts seeping (leaking out), see how long it takes the acid to start seeping through the capsule. Now put this capsule on the end of the fuse when it starts to seep it will ignite the fuse.

Note:

You can use this method in igniting any detonator, regardless of the activator, by putting an amount of potassium chlorate (crumbled match heads) at the top of the activator.

## MECHANICAL DETONATOR

Detonated by impact on the surface of the activator. e.g. hand grenade.

### NOTES CONCERNING ALL TYPES OF DETONATORS

1. Flammable material is any gunpowder that has potassium chlorate or potassium chlorate combined with sugar, on a ratio of 2:1.
2. Activators e.g. silver, lead azed, mercury feliminade, acetone or hexamine peroxide can all be used as activators.
3. Boosters such as picric acid, RDX., tetride and liquid nitro glycerine.
4. Military detonators weigh 1g, made up from 0.4gm activator and 0.6 booster.
5. Detonators can be made from 1g activator and 1g booster.
6. If you are short of booster, detonator can be made of 3g of any activator, or any mixture of activator, e.g. acetone peroxide and hydrogen peroxide.

## FUSES (FATEEL)

A fuse is a medium used to carry the fire from the source to the detonator and it comes in different types. All come in the form of a cord made of cotton fibre and coated with a plastic material for insulation against humidity and other elements. It can be found in different colours. All are used for different purposes.

Delay (or Timing) Fuse

This is used to provide time enough to make a getaway

1. Slow cold fuse.

A- Potassium Chlorate 1 part  
sugar 1 part  
speed 10cm per 35 secs

B- potassium permanganate 3 parts.  
sugar 1 part

speed in which it burns 10cm/30 sec.

C- Potassium Nitrate 1 part  
Sugar 1 part  
speed 10cm /55 secs

D- Match bits 1 part  
sugar 1 part

#### SLOW WARM FUSES

1. Potassium chlorate  $\text{KClO}_3$  1 part
2. Sugar  $\text{C}_6\text{H}_{12}\text{O}_6$  1 part
3. Water  $\text{H}_2\text{O}$  2 parts.

Heat the water then add potassium chlorate and sugar, mix then dip cotton, thread or shoelace, or long piece of cotton cloth. These are used in igniting napalm and Molotov cocktails. Let them fully absorb the solution then let them dry. Try them out to find out speed. 10cm=44sec.

#### FAST FUSE:

Used in booby traps;

#### FAST COLD FUSE

Ingredients:

##### TYPE 1

1. 75% potassium chlorite.
2. 12.5% carbon.
3. 12.5 % sulphur.

##### TYPE 2

1. Potassium chlorate 1 part
2. Sulphur 1 part
3. Carbon 0.5 parts

Same procedure as before for grinding etc Remember about potassium chlorate.

#### FAST WARM FUSES

Potassium chlorate 2 parts.

Sugar 1 part

Same procedure as in warm slow fuse. Because the ratio of potassium is high the speed is faster 6cm/6.5sec. You can use fire or acid to light this type of fuses.

#### EXPLOSIVE FUSES

Used for the following:

1. substitutes for detonator
1. To set off several charges at the same time.
1. To clear minefields.
1. Can be used as an explosive charge.

#### NOTES:

1. You can improvise on how you make this tube filled with the above ingredients.
2. you can use straw, roll up paper, sew a piece of cloth, to make it water proof use wax, tape etc both sides are open one is in contact with detonator other side is ignited.
3. The ingredients have to be grounded very fine
4. potassium chlorite must be grounded in the following way
5. Put ( $\text{KClO}_3$ ) on a flat surface and roll a pen or pencil over it slowly without applying too much pressure, DO NOT HIT IT. Concerning nitrate and nitrite these are salts which absorb humidity therefore they are used they have to be dried i.e. sunlight heat etc can be grounded with a clay or wooden bowl and stick NOT ELECTRIC GRINDER.

6. Sodium nitrite and nitrate potassium nitrite and nitrate and sodium chlorite, chrome nitrite these can all be used in making fateel (fuses).
7. You must check this material very thoroughly the fuse must be constant in the amount that you put in it and must be compressed as much as possible so as to allow the burning to take place evenly.
8. You must test it first to see if it works and how long it takes to burn. By changing the ratio of the ingredients you can change the speed i.e. more sugar will slow it down but you don't want it to be too slow.
9. THIS METHOD IS CALLED THE COLD METHOD JUST PUTTING THINGS TOGETHER.
10. This type of fuse can be ignited by fire, nitric acid or sulphuric acid. THIS IS THE SLOW FUSE.

## EXPLOSIVE LIQUIDS – NITRO'S

- |  |   |
|--|---|
| 1. <b>Nitro Glycerin</b>                           | <b>C<sub>3</sub>H<sub>5</sub>NO<sub>3</sub></b> |
| 2. <b>Nitro Methane</b>                            | <b>CH<sub>3</sub>NO<sub>2</sub></b>             |
| 3. <b>Nitro Benzene</b>                            | <b>C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub></b> |
| 4. <b>Nitro toluene</b>                            | <b>C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub></b> |
| 5. <b>Nitro cellulose (this is a cotton fibre)</b> |   |

### 1. NITROGLYCERIN - C<sub>3</sub> H<sub>5</sub>NO<sub>3</sub>

Considered to be one of the most sensitive and the most dangerous explosive liquids there is. It is an oily liquid. It comes in yellow or white colour the military version is transparent. It is sensitive to heat, impact, and vibration (shock). Freezes at 8°C and melts at 11°C. It has 3 groups of nitrogen and it is the most common base for dynamite. Explosive speed is 7700. It is poisonous if injected into the blood stream. It can also penetrate through. The fatal dose is 1.5g. Sunlight causes it to lose its effectiveness and become totally useless. It is used in making high explosive dynamite and solid fuel for rockets.

#### INGREDIENTS

- 1 5.0ml Glycerin
- 2 15.0ml Nitric Acid
- 3 22.5ml Sulphuric Acid

1. Put the nitric acid in container in an ice pack let temperature drop.
1. Add sulphuric acid to the nitric acid drop by drop maintain temp. at 15°C.
1. Add glycerin one drop at a time maintain temp. at 20°C.

#### NOTES:

- If too much glycerin goes in, a brown smoke will come out. STOP at once let it cool down.
- If temp rises over 30°C immediately dump the solution in cold water.

4. Stir for 5 minutes.
5. Pour solution in to 150ml of water, You will see the nitroglycerin sink to the bottom.
6. Separate nitro-glycerine from water.
7. Add sodium carbonate solution 2% to the product and use pH paper to check for acid.
8. Add water double the size of the product to store.

#### NOTES:

1. Do not freeze N.G in refrigerator because it is more sensitive when frozen (it goes crazy).
1. Always store in small bottles with small quantities with the same amount of water.
1. Do not shake, be very careful.

1. To test the N.G you put a small drop on a piece of metal you should see a blue smoke its OK
1. N.G can be used as a booster in detonators.
1. N.G can be detonated by a detonator with just activators (no booster).
1. if 2 Kg of N.G is dropped from 35 cm high the charge will explode.

## 2. NITRO BENZENE (N.B)

Nitro benzene is a yellow liquid that is not very sensitive and does not explode by itself and has to be mixed with other explosive materials. It has a medicinal purpose, which is to stop diarrhoea in kids.

### Ingredients

1. 5ml petrol (C<sub>6</sub>H<sub>6</sub>- gasoline super unleaded)
  2. 50ml nitric acid.
  3. 50ml sulphuric acid.
- 
1. Put nitric acid in a container in an ice pack.
  1. add sulphuric acid to nitric acid slowly while stirring, maintain temperature below 20°C.
  1. add petrol (gasoline C<sub>6</sub>H<sub>6</sub>) gradually and maintain temperature below 20°C.
  1. stir for 10 min. then let it settle for a while (you will notice N.B start forming on the surface).
  1. separate then store in container .

### NOTES:

- Nitro benzene smell like bitter almond.

## 3. OZOT(NITROGENE) MIXTURE

N.B 1 part  
HNO<sub>3</sub> 2 part

Add N.B to HNO<sub>3</sub> slowly while stirring maintain temperature below 20C. HNO<sub>3</sub> must be 90% concentration. This mixture reacts with metal, therefore keep in a glass bottle then put bottle in metal container.

## 4. NITRO BENZENE MIXTURES

- |    |                     |                        |
|----|---------------------|------------------------|
| 1- | 20% N.B             | 80% Potassium Chlorate |
| 2- | N.B                 | 1.5 parts              |
|    | Potas. permanganate |                        |
|    | Sugar               | 1 parts                |
|    | potas. chlorate     | 3 parts                |
| 3- | potassium. Chlorate | 3 part                 |
|    | sugar               | 1 parts                |
|    | N.B                 | 1 parts                |
| 4- | Pot. Chlorate       | 6 parts                |
|    | Sugar               | 2 parts                |
|    | mg powder           | 3 part                 |
|    | Al powder           | 1 part                 |
|    | N.B                 | 1 part                 |
| 5- | N.B                 | 1 part                 |
|    | HNO <sub>3</sub>    | 3 parts                |
| 6- | potassium. chlorate | 5 parts                |
|    | sodium nitrate      | 3 parts                |
|    | sugar               | 3 parts                |



Aluminium	2 parts
N.B	3 parts
ground coffee	1 parts

#### 5. PLACETACEINE MIXTURES.

- 1- KClO<sub>3</sub> 3 parts  
C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> 1 parts  
Nitro benzene 1 parts
- 2- KClO<sub>3</sub> 3 parts  
sugar 1 parts  
KMNO<sub>4</sub> 1 parts  
N.B 1.5 parts
- 3- KClO<sub>3</sub> 6 parts  
C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> 2 parts  
Al 3 parts  
Mg 1 part  
N.B 1 part
- 4- KClO<sub>3</sub> 8.5 parts  
Vaseline/grease 1.5 part
- 5- NH<sub>4</sub>NO<sub>3</sub> 12 parts  
Al 3 parts

#### DY- NITRO TOLUENE

Toluene (C<sub>7</sub>H<sub>8</sub>) is a liquid that is used by carpenters and painters.

Nitro Tuloin is a base for the dynamite and is produced in the second stage of making the TNT. It is a yellow colour and has medium sitivity and is an ingredient in the making of C3.

#### INGREDIENTS

453ml Sulphuric acid  
166ml Nitric acid (HNO<sub>3</sub>)  
140ml Tuloin

1. Add 453ml of sulphuric acid to 166ml of nitric acid slowly while stirring (solution 1).
2. Take 57ml of solution 1 and add it to 140ml of Tuloin slowly while stirring (ice pack if needed Maintain temperature below 20°C. (solution 2)
3. Stir solution 2 for 15 min.
4. Heat solution 2 to 50°C.
5. Add 280ml of solution 1 to solution 2.
6. Heat solution to 55°C and maintain temp for 10 min., at this stage you will notice the formation of a oily liquid at the top of the surface.
7. Separate the oily liquid at the surface using a syringe or injection and this is the mono nitro tuloin.
8. Take 280ml of solution no 1 and add it to the mono nitro tuloin (oily liquid in step no: 7).
9. Heat solution up to 83°C, maintain temperature for 30 min.
10. Drop temp to 60°C and maintain for 30 min. At this stage another oily compound will start forming on the surface and this is the 2<sup>nd</sup> nitro Tuloin.
11. Separate the 2<sup>nd</sup> nitro Tuloin by using a syringe and clean with cold water till you get rid of the acids. To check for acid use pH paper.
12. Store in container with equal amount of water.

## NITRO METHANE (CH<sub>3</sub>NO<sub>2</sub>)

Less sensitive than N.G, as temp rises it gets more sensitive. All the explosive liquids can have their colour changed, and the colouring agent will have no effect on the explosive liquids.

### Ingredients

13.5ml methanol (CH<sub>3</sub>OH)  
16.5ml nitric acid (HNO<sub>3</sub>)  
24.0ml sulphuric acid (H<sub>2</sub>SO<sub>4</sub>)

1. place nitric acid in container in an ice pack and allow the temp to drop as low as possible.
1. add (H<sub>2</sub>SO<sub>4</sub>) to nitric acid maintain temperature below 20C.
1. Add methanol slowly maintain temperature below 20C. Should there be a sudden rise of temp dump it in water.
1. Stir for 5-10 min. after 10 min. you will notice that N.M (CH<sub>3</sub>NO<sub>2</sub>) start to form on the surface.
1. separate N.M using syringe, colour in yellow, add N.M to 200ml cold water and stir.
1. N.M will sink to the bottom now separate from water and clean with sodium carbonate solution 2% con. test with pH paper for acids .

### NOTES:

1. ethanol (C<sub>2</sub>H<sub>5</sub>OH) is a liquid material used by carpenters and in paint shops as a paint thinner.
1. this type of N.M is to be a N.G used to make dynamite. There is another liquid called N.M which is not explosive and is used as fuel for race cars.

## NITRO METHANE (CH<sub>3</sub>NO<sub>2</sub>) MIXTURE

94%	N.M	06% ammonia (NH <sub>3</sub> OH)
94%	N.M	06% Aniline (becomes greasy sticky compound)
25%	N.M	75% Ammonium nitrate.
90%	N.M	10% Nitro Cellulose.
80%	N.M	20% saw dust.

## DYNAMITE

Handling and using of the explosive liquids is difficult and dangerous in liquid form. If they get mixed with another materials that makes them safe to handle and safe to use and easy to transport and that is the idea of dynamite. Dynamite is divided into 3 types according to the base materials that being mixed with these explosive liquids. factor from .41-79 of TNT

Type 1. Normal dynamite. Using a (neutral) stable base such as sand, bones.

Type 2. Active dynamite. Using an active base e.g. sugar, carbon, cotton and sawdust.

Type 3. Explosive dynamite. Using a explosive base material e.g. potassium chlorate, sodium chlorate, sodium nitrate, potassium nitrate and ammonium nitrate. We can have different types of dynamite by changing the base material and the amount of N.G, normal type using N.G and base to make a solid shape i.e. dynamite stick.

### REGULAR TYPES

A mouldable mixture similar to plasticine with a yellow and slightly red colour. This redness depends on the amount of iron used in the mixture. Iron is used to absorb or stop leaking of the nitro glycerin. This regular type loses effectiveness as time goes by and loses complete effect after six months and must be disposed of.

## MINES DYNAMITE

It is made from nitro-glycerine, saw dust, calcium carbonate and sodium nitrate; the colour is light brown; speed is 5,185m/s.

Military Type

Ingredients:

RDX	75%
TNT	15%
10%	INACTIVE MATERIALS

Factor: .92

Comes in sticks of 200g . Colour is white or yellow

Safety dynamite

Ingredients

N.G	29%
N.C	1%
NH <sub>4</sub> NO <sub>3</sub>	70%

OR

N.G	29%
N.C	1%
NH <sub>4</sub> NO <sub>3</sub>	65%
KNO <sub>3</sub> (Potassium Nitrate)	5%

## PLASTICINE DYNAMITE

Is made of N.G with nitro cellulose and any other explosive material.

### INGREDIENTS

N.G	93%
N.C (Nitro Cellulose)	7%

OR

N.G	91.4%
N.C	8.6%

OR

N.G	90%
N.C	10%

There are some materials that are mixed with dynamite to prevent certain problems i.e. to stop dynamite from freezing we use nitro glycol, and to stop N.G form leaking out of dynamite we use (CaCO<sub>3</sub>).

### NITRO CELLULOSE (CLODIUN) - C<sub>24</sub> H<sub>32</sub> NO<sub>2</sub>

Ingredients

250ml Sulphuric Acid  
150ml Nitric Acid NA  
17g cotton (medical cotton)

1. Pour nitric acid into a container and put in an ice pack let temp. below 20°C.
1. Add sulphuric acid to nitric acid drop by drop while stirring; maintain temp below 20°C.
1. Add cotton bit by bit (if you put to much it will burn) into the container
1. Allow it to settle for 30 min.
1. Drip dry on top of a container.
1. Then take the cotton and put in some water; boil for 10 min. repeat 4 or 5 times check with pH paper for acid use sodium carbonate solution 2%.
1. Dry and store in dark container (acid must be taken out or it will explode by itself) .

## BULL'S EYE MIXTURE

1. Put the nitro-cellulose in a piece of pipe, use a slow fuse (fateel) to ignite. Fragments will travel at 600ft/s.
1. Put nitro cellulose in a piece of pipe, detonate using a detonator. The speed will cause the fragments to travel at 20,000 ft/s. (One end of the pipe must be sealed off).

### NOTES

1. If we expose the Nitro cellulose to direct sunlight it will decompose.
1. If you add too much cotton to solution it will burn. If you don't have medical cotton get regular cotton; soak in bicarbonate solution for 30 mins and rinse it in hot water and allow to dry.
1. If concentration on acid nitrate and sulphuric acid is more than 90% we add 20ml of water to lower the concentration.
1. Step 6 can be done by using pressure cooker to boil the cotton for 30 mins.
1. Treated cotton should not be squeezed this gives you a better result.
1. To test the product take a small piece and light it up, it should disappear instantly and leave no trace. If there is ash left it has impurities in it, but it still can be used. If the burning was slow this is because the cotton was still wet.
1. This nitro cellulose can be treated by dissolving it in acetone and mixed with other materials to make propellant fuel for rockets. smokeless solid fuel rockets.

## ASTROLITE

The most powerful conventional explosive material.

### ASTROLITE G:

It was discovered in 1960 while searching for a liquid rocket fuel. It is very safe to deal with because the materials used to make the astrolite are not explosive materials. Obtaining these materials does not arise suspicions.

#### Ingredients

Ammonium nitrate ( $\text{NH}_4\text{NO}_3$ ) 2 parts  
Hydrezhydrozene ( $\text{N}_2\text{H}_4$ ) 1 part

Ammonium nitrate must be added to the hydrezhydrozene very slowly and very carefully while stirring. DON'T add hydrezhydrozene to the Ammonium nitrate.

### ASTROLITE A:

#### Ingredients

aluminium powder (Al) 20g  
Ammonium nitrate ( $\text{NH}_4\text{NO}_3$ ) 57g  
Hydrezhydrozene ( $\text{N}_2\text{H}_4$ ) 33g.

### ASTROLITE C:

#### Ingredients:

Hydrazine hydroxide ( $\text{N}_2\text{H}_4(\text{OH})_2$ ) 30g  
Ethanol 57ml  
Water 13ml

#### NOTE.

1. Container used to mix hydrazine must be at least 5 times the size of the amount being mixed especially when mixing with ammonium nitrate.
2. Add ammonium nitrate to the hydrazine very slowly and very carefully and practice patience in mixing these materials.

3. Wear Gas mask when mixing these materials because of the ammonia fumes produced.
4. Make sure that ammonium nitrate is completely dissolved And disappeared not worrying about time.
5. When mixing astrolite (A) it is better to add the aluminium powder to the ammonium nitrate then you add those two components to the hydrazine.
6. Avoid touching or breathing in the hydrazine
7. quickly wash your hands with water if you touch the hydrazine, It is advisable to wear hand gloves.
8. hydrazine is twice as powerful as the TNT .
9. The explosive speed of Astrolite A is 7800m/s.
10. The explosive speed of Astrolite G is 8600m/s.
11. Strolite G can be absorbed in the ground and will maintain effectiveness even if it is mixed with water. Therefore it can be used as a land mine mixed with dirt and can be detonated using regular electrical detonator made only of activator. The same thing can be done with nitro glycerin.
12. 30g of Astrolite G is enough to kill or amputate a person and if it is used as a land mine it can disable light vehicles.

### HOW TO OBTAIN MILITARY BOOSTERS

**RDX:** is attained by dissolving 60g of C4 or C3 in 1 litre of petrol (gasoline) and stir it till it dissolves completely and let it settle. RDX particles start sinking to the bottom. Filter and let it dry. It is able to wash it with gasoline after you have filtered it and also it can be attained from Chinese RPG 7 rockets. (HEAT) also it can be attained from fuses all colours except the white ones.

**PICRIC ACID:** can be obtained from anti personal and anti vehicle mines.

**TETRAYL:** can be obtained from anti personal and anti vehicle land mines and from the Russian RPG7 rockets.

**P.E.T.N:** can be obtained from the explosive cord (white colour) cortex cord. Booster and Activators can obtained from toy gun bullets made of match stick.

### TETRA NITRO TOLOUENE (TNT) - $C_6H_2CH_3(NO_2)_3$

This is a military explosive that is considered to be the most popular in demolition work. It has medium sensitivity, not sensitive to heat or impact, it melts from between 81-71°C, depending upon the impurities. It has a white, yellowish colour in its purest form. It explodes at 288°C and has a bitter taste. It doesn't react with metals and humidity does not affect it. It does not dissolve in water, however it does in alcohol and acetone at 71-81%, using the hot water bath. The explosive speed is 7000m/s. Its destructive ability is considered to be the standard in measuring the other explosives, which is referred to as effectiveness.

Ingredients:

27.9ml	nitric acid
70.9ml sulphuric acid	
11.4ml toluene	

Method:

1. Put 16.7ml nitric acid in container and add 45.6ml sulphuric acid to form solution no.1 (add 1ml of water to the solution if the concentration of both the acids is more than 85%).
1. Put 11.2ml nitric acid, then add 7ml sulphuric acid to form solution no.2.
1. Put 5.6ml of solution n0.1 in a container and place it in an ice pack.
1. Allow temp to drop to 5-10 cent, then add 11.4ml toluene slowly while stirring.

1. Stir solution for 2mins then heat to 50°C whilst stirring.
1. At 50 cent add 28.4ml from solution no.1, maintaining temp at 50°C.
1. Heat the solution to 55°C then maintain for 10 mins.
1. After heating for 10 mins you will notice an oily liquid (this is mononitro toluene) forming at the surface of the solution. Drop the temp to 45°C and separate the oily solution and dispose of the acid.
1. Put the mononitro toluene in a container then add 18.3ml from solution no.1.
1. Heat the solution to 83°C and maintain for 30 mins.
1. Drop temp to 60°C then maintain for 30 mins. After this you will notice another oily liquid forming at the surface of the solution (this is dynitro toluene). Separate it from the solution and dispose of the acids.
1. Put the dynitro toluene in a container and add to it 18.3ml sulphuric acid (85% or more concentrate), do this slowly and without stirring.
1. Heat the solution to 80°C then add 18.3ml of solution no.2, maintaining temp at 80°C.
1. Heat solution to 104°C then maintain for 3hrs.
1. Drop temp to 100°C and maintain for 30 mins. You will notice an oily liquid forming at the surface (this is tetranitro toluene). Separate this and dispose of the acids.
1. Add 120ml of boiled water to the TNT while stirring to get rid of the acid. Repeat this three times.
1. Get rid of the water then add 200-240ml of cold water to the TNT till the TNT drops to the bottom.

<b>Standard size</b>	200g	2.5x 5 x 10 cm
<b>Big size</b>	400g	5 x 5 x 10 cm
<b>Cylinder size</b>	75g	2.5 x 7 cm

#### TNT MIXTURES

- 1- 40%  $\text{NH}_4\text{NO}_3$   
60% TNT
- 2- 60%  $\text{BrNO}_3$   
40% TNT
- 3- 72%  $\text{PbNO}_3$   
28% TNT
- 4- 35%  $\text{KNO}_3$   
60% TNT  
5%  $\text{NH}_4\text{NO}_3$
- 5- 65gr  $\text{KClO}_3$   
5gr  $\text{C}_6\text{H}_{12}\text{O}_6$   
2gr TNT  
20gr Al
- 6- 64%  $\text{NH}_4\text{NO}_3$   
15% TNT  
21% NaCl

#### C4

C4 is a sticky dough like white coloured paste, contains 91% RDX, humidity has no effect, dissolves in kerosene to get RDX, dissolves totally in acetone, but dissolves in kerosene to its basic components.

factor: 1.43  
speed 7620m/s

Ingredients:

91% RDX  
7,4% N.C  
1.6% engine oil

Spread cotton thinly and evenly, grind the RDX and spread on top of N.C then pour engine oil on top and mix thoroughly

### C3

Is dough like material, colour vary between white to brown contains 71-77% RDX, doesn't react with metal, humidity has no effect on it, can be stored for long period of time, dissolves in kerosene to get RDX dissolves totally in acetone

factor 1.3  
speed 7625m/s

Ingredients:

Dy.N.T 20g  
RDX 77g  
N.C 3g

Spread N.C on a board of plastic or glass grind RDX and spread on top of N.C pour dy.N.T on top and mix.

### GELIGNITE

Considered to be the most powerful military explosive. It has a plasticine nature and it is made of a mixture of nitro glycerine, C4 and C3. A process which should be carried out in a chemical lab because certain conditions must be maintained which are not assessable elsewhere and a certain environment is required.

#### HOW TO MAKE NITRIC ACID (HNO<sub>3</sub>)

Add 1 part sulphuric acid(H<sub>2</sub>SO<sub>4</sub>) to 2 parts of potassium nitrate (KNO<sub>3</sub>) or 3 parts of ammonium nitrate, heat indirectly till you see red gas (NO<sub>2</sub>) start coming up. Condense gas by cooling the resulting is HNO<sub>3</sub> in pure liquid form.

#### HOW TO CONCENTRATE SULPHURIC ACID

Heat the sulphuric acid in a glass container that stand the heat till you start seeing a white smoke, which indicates a full concentrate sulphuric acid.

### AL-SAHABA MIXTURE

THIS A LIST OF MIXTURES THAT EQUAL TO TNT

#### 1)ABU BAKR

N.G	84g			
N.C	15g			
NH <sub>4</sub> NO <sub>3</sub>		10g	factor	200%

#### 2)OMAR AL-FAROOQ

N.G	75g			
N.C	5g			
NH <sub>4</sub> NO <sub>3</sub>		15g	factor	180%

### 3) OTHMAN IBN AFFAN

N.G	75g			
N.C	5g			
NH <sub>4</sub> NO <sub>3</sub>		15g		
saw dust		5g	factor	160%

#### NOTE:

The above three mixtures require detonator (a detonator made of activator only will work due to N.G)

### 4) ALI IBN ABEE TALIB

NH <sub>4</sub> NO <sub>3</sub>		6.5 parts		
Al	2.0 parts			
TNT(powder)	1.5 parts		factor	160%

### 5) KHALID IBN AL-WALEED

NH <sub>4</sub> NO <sub>3</sub>		2 parts		
UREA nitrate	4 parts			
Al	1 part		factor	140%

### 6) ABU OBAYDA

NH <sub>4</sub> NO <sub>3</sub>		3 parts		
UREA nitrate	3 parts			
Al	1 part		factor	130%

### 7) SAED IBN ABEE WAQQAS

NH <sub>4</sub> NO <sub>3</sub>		6 parts		
UREA nitrate	2 parts			
Al	1 part			
S	0.5 parts		factor	120%

### 8) ZAYED IBN HARETHA

NH <sub>4</sub> NO <sub>3</sub>		8.5 parts		
Al	1 part			
S	0.5 parts		factor	100%

### 9) JAFER AL-TAYAR

UREA nitrate	3 parts			
Al	1 part		factor	85%

### 10) ABD AR-RAHMAN INB AOUF

NH <sub>4</sub> NO <sub>3</sub>		2 parts		
Al	1 part		factor	80%

#### NOTES:

1. Mixture 1,2,3 (plasticine mixtures) better be prepared 1-2 days before use.
1. To prepare spread N.C over a board of plastic or glass evenly, dry NH<sub>4</sub>NO<sub>3</sub> then spread over N.C pour N.G on top and mix.
1. For mixture which have powder dry nitrate and grind then mix in closed container.
1. All the above mixtures require normal detonator (except 1,2,3 you can use one with activator only).



## MOLOTOV COCKTAIL

1. This is an effective method of causing fires to homes, offices, stores, cars fuel tanks etc. It is a glass bottle filled with a flammable mixture that consists of the following substances.
2. A substance that burns quickly, e.g. gasoline, ethanol, methanol, kerosene, thinner.
3. A substance that burns over a period of time (slow burning), e.g. polystyrene, rubber, used motor oil, vegetable soap and egg white.

### MOLOTOV MIXTURES:

- 1- 65% gasoline (petrol).  
35% engine oil.
- 2- 30% gasoline.  
30% engine oil.  
20% ethanol or thinner.  
10% styrofoam (polystyrene).
- 3- 65% gasoline.  
35% polystyrene (this is the most effective).
- 4- 65% gasoline.  
35% soap (made of vegetable oil).
- 5- 55% gasoline.  
25% methanol.  
20% vegetable oil.
- 6- 95% gasoline.  
5% rubber.
- 7- 65% gasoline.  
35% egg yolk.

### NAPALM

This is a burning poisonous mixture that burns the skin and its primary use is anti-personnel. It is internationally prohibited. The container used for effectiveness must be of glass and easily breakable.

Ingredients:

1. 70% soap (vegetable).  
20% aluminium sulphate ( $AlSO_4$ ).  
10% fanfatol

Note: Fanfatol used only if we want to store Napalm for a long period.

2. 80% soap.  
20% aluminium sulphate ( $AlSO_4$ ).

a. Heat (using indirect method) ingredients with some kerosene till you have a thick mixture take 1mea of this mixture, mix 1mea of super unleaded gasoline (petrol) pour in a bottle and use one of the igniting methods in molotov.

- B- 10 parts of kerosene or gasoline.  
7,8 parts soap.  
2,5 parts detergent.

heat the above using hot water bath till you have a thick compound put in bottle and light up

- C- 25% gasoline.

25% petrol.  
50% polystyrene.  
phosphor can be added for self-ignition.

Phosphorous Napalm  
regular Napalm with high ratio of phosphor produce up to 2000°C. Poisonous and also produces poisonous gases.

#### Best Napalm make up

1. 50% Napalm.  
50% gasoline, ethanol, thinner
2. 35% Napalm.  
65% ethanol, gasoline, thinner

### **IGNITING METHODS FOR NAPALM AND MOLOTOV COCKTAIL**

#### **Old Methods:**

1. close bottle tightly, shake, get a cloth wet it petrol (gasoline) rap it around the bottle neck ignite and throw.
2. Get a cloth, soak in petrol, insert half in bottle as a cork and leave the other half out. Ignite with match and throw

#### **New Methods:**

- 1 get matches and stick them around the bottle, light and throw.
- 2 get small easy breakable bottles fill with sulphuric acid ( $H_2SO_4$ ) seal tightly, get a fateel (see fuses), rap the cloth around the bottle them stick the small bottles over the cloth and throw.
- 3 add 100 to 140ml of sulphuric or nitric acid to every one litre of the mixture and close tightly and shake well (you will see some black colour appear) rap a fuse cloth around the bottle, when bottle breaks the acid lights up the fuse

Note: Always choose a hard surface on which the bottle should land in order for it to smash open.

### **SODIUM BOMBS (GRENADES)**

When sodium comes in contact with water it creates great amount of gases therefore if you get a container as described earlier. Fill the container up to 2/3 with sodium. Get a bottle as described earlier fill with water and seal tightly wiping the outside very clean and dry put it in the container with some pieces of metal or ball bearings sealing it tightly.

### **MAGNESIUM BOMB**

Get a container as described earlier fill it with a mixture of potassium chlorate and sugar using a 1to 1 ratio. Get a reasonable amount of magnesium powder and get a bottle as described above and fill it with nitric acid or sulphuric acid sealing tightly and wiping it dry. Put all in the container making sure that the size of all this material will add up to 2/3 of the size of the container. As before remember to add some metal or ball bearings to ensure that the bottle will break.

### **CALCIUM HYPOCHLORITE (H.T.H)**

H.T.H is a chemical material used to disinfect the swimming pools.

#### **INGREDIENTS**

H.T.H	32meas
Gasoline (super)	1meas

## MILITARY MIXTURES

### HEXSOLETE MIXTURE

ingredients

- 1- 50gr TNT  
50gr RDX
  - 2- 40gr TNT  
60gr RDX
- grind good and mix

### THERMETE MIXTURE(BURNING BOMB)

made of

- 54gr Al
- 160gr  $FE_2O_3$
- 10gr  $Br_2O_3$
- 10ml engine oil

we can add 10% of the total size of Mg for heat effect and white smoke.

## GUN POWDER

### Black Cold type

ingredients

- $KNO_3$  75% (POTASSIUM NITRATE)
- C 15% (CARBON)
- S 10% (SULPHUR)

STEPS

1. Grind each material separately.
1. put  $KNO_3$  first then add sulphur and mix .
1. add carbon and mix well.
1. strain and use the product for as fast gunpowder.

### Black warm type

ingredients

- $KNO_3$  22.5 gr
- C 4.5 gr
- S 3 gr
- $H_2O$  15 ml
- Ethanol 64 ml

Steps

1. grind each material separately
1. Put  $Kno_3$  in container
1. add sulphur and mix
1. add carbon and mix
1. strain and take the product put in container add water and mix
1. Heat slowly don't let boil (till bubbles form)
1. take it away from heat
1. add ethanol and let it settle for 5 min.
1. strain and dry in sunlight

note: this gunpowder is explosive so it can be used as charge and it can be used as propellant and in the impact bombs.

- 1.

## EXPLOSIVE BLACK GUN POWDER

Ingredients

- gun powder 50%

magnesium powder 50%  
mix well .

Gunpowder contains potassium chlorate and 50% magnesium powder.

This is believed to be the powder that is used in the Kalashnikov bullets

#### WHITE GUN POWDER

ingredients

KClO<sub>3</sub> 3 parts

Sugar 1 parts

#### YELLOW GUN POWDER

ingredients

KClO<sub>3</sub> 2 parts

Al 1 parts

S 1 parts

Notes:

add sulphur to KClO<sub>3</sub> mix thoroughly then add aluminium powder.

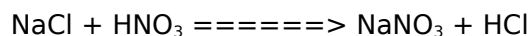
this mixture can be used in impact bomb.

can be ignited using acid, fire or heat.

#### SODIUM NITRATE (NaNO<sub>3</sub>)

How to make Na NO<sub>3</sub>:

Add a reasonable amount of sodium chloride to the nitric acid, filter, clean using cold water and allow to dry



#### MIXTURE

NaNO<sub>3</sub> 1 parts

Al, Cu, Mg 1 part

NOTES:

All salts (nitrates and nitrites) including NaNO<sub>3</sub> (sodium nitrate) absorb humidity so they have to be kept in a closed container.

sodium nitrate(NaNO<sub>3</sub>) is stronger than KNO<sub>3</sub> (Potassium nitrate) but it must be mixed with aluminium powder or magnesium powder or copper powder, 1:1 ratio.

NaNO<sub>3</sub> does not explode by itself.

#### SODIUM NITRATE (NaNO<sub>2</sub>)

Sodium nitrate is a salt that has the same characteristics as NaNO<sub>3</sub> except it has 2 group of nitrogen instead of 3 can be used to make fateel or as a charge.

#### CARBON TETRA CHLORIDE (CCl<sub>4</sub>) CTC

Carbon tetrachloride is a liquid used in the fire extinguisher, is poisonous, transparent and evaporates

CCl<sub>4</sub> 1meas

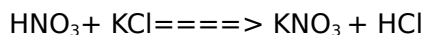
Al (powder) 2meas

To mix: put aluminium powder first then add CCl<sub>4</sub> and stir

Note: CCl<sub>4</sub> self explodes in 72 hours if it's left uncovered; must be sealed tightly.

## HOW TO MAKE POTASSIUM NITRATE (KNO<sub>3</sub>)

Add 60g of nitric acid to 40g of potassium chloride. Then filter. Clean with cold water and dry.



### FERTILIZERS

#### Ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>)

Ammonium Nitrate is one of the ammonium salts and is the most popular in the poor countries because manufacturing is not costly and it found in abundance. It is a fertiliser that comes in white colour and is like hailstones. It has 23% nitrogen on the package look for (NP-23) where there is 23 or any other number this represents the percentage of nitrogen. Reacts strongly with aluminium powder, when heated it melts producing ammonia gas, can be detonated only if it has 33% of nitrogen and in order to overcome this problem (i.e. less than this percentage is not enough) one of the following powders must be added aluminium powder, copper powder, magnesium powder or TNT in certain ratios, depending on the percentage of nitrogen in the fertiliser which increases the sensitivity when the explosion takes place and in the case of the powders produces heat and light after the explosion takes place.

NB. Ammonium nitrate with a lesser percentage of nitrate as chemical a.m.

### AMMONIUM NITRATE EXPLOSIVE MIXTURES

#### AMONAL

A highly explosive mixture, produces great amounts of heat. Its effectiveness is 0.82 of TNT.

Ingredients:

- 22% ammonium nitrate
- 11% Aluminium powder
- 67% TNT

Or:

- 78gm ammonium nitrate
- 54gm aluminium powder

Method:

1. Melt TNT using indirect method
1. Add ammonium nitrate to TNT slowly whilst stirring.
1. Pour the mixture into a piece of pipe and allow it to cool.
1. Make a hole for the detonator

Or:

- 60% ammonium nitrate
- 40% TNT

Or:

- 60% TNT
- 35% potassium nitrate
- 5% ammonium nitrate

#### MENOL

- 40% TNT

40% ammonium nitrate  
20% aluminium powder

### **DENAMOL**

88% ammonium nitrate (chemical)  
12% sugar or sawdust

Method:

Grind each material and mix thoroughly, detonate using detonator.

### **AMATOL**

1. Destructive Type:

50% ammonium nitrate  
50% TNT

2. Demolishing Type

60% ammonium nitrate  
40% TNT

3. Propellant Type

80% ammonium nitrate (when nitrogen is 20 percent or more)  
20% TNT

### **ANFO EXPLOSIVE MIXTURE:**

The most popular in poorer countries. Effectiveness is 42% of TNT. Explosive speed is 3400 m/s

Ingredients

1- 90% Ammonium nitrate( $\text{NH}_4\text{NO}_3$ ) (chemical)  
10% Diesel or Motor oil

2- 88.2% ammonium nitrate (chemical)  
08% aluminium powder  
3.8% motor oil

Method:

Grind ammonium nitrate thoroughly, add rest of the material, mix and seal tightly.

3- 64% ammonium nitrate (chemical)  
15% TNT  
21% sodium chloride (cooking salt)

### **PLASTECENE NITRO GLYCERINE**

DYNAMITE GLUE

12% nitro glycerine  
0.5% nitro cellulose  
78.5% ammonium nitrate

Mixtures

---

1. 93% ammonium nitrate (chemical)  
7% ground coffee

2. 79% ammonium nitrate (chemical)  
10% dynitrate nephtalene  
1% sawdust  
10% sodium chloride

3. 86% ammonium nitrate (chem)  
6% citric acid  
8% aluminium powder
4. 16 parts. ammonium nitrate (ch)  
0.5meas. motor oil  
0.5meas petrol
5. 30% nitro glycerine (plastecene)  
26.5% ammonium nitrate  
3.5% calcium nitrate  
40% sodium chloride
6. 64% ammonium nitrate  
15% TNT  
21% sodium chloride NITRO FAS

Nitro fas is another fertiliser comes in the form of hail drops and is black in colour and has 23% nitrogen and 23% of phosphor. Must be mixed with a powder to become an explosive.

### **TREBLE SUPER PHOSPHATE**

Treble super phosphate is another fertiliser and comes in the form of hail drops and it's grey in colour, it has 10% trible and 1% phosphate and 46% super.

1. Nitro fas is more powerful than ammonium nitrate and can be used as a substitute for ammonium nitrate.
1. Chemical ammonium nitrate has over 32% of nitrogen and it is used in making of nitric acid.

### **UREA [CO(NH<sub>2</sub>)<sub>2</sub>]**

Urea is a fertiliser that comes in the form of hail drops it is white in colour and it contains 46% of nitrogen. It is not an explosive in itself but needed to make the urea nitrate which is a strong explosive.

### **UREA NITRATE [CO(NO<sub>2</sub>)<sub>2</sub>]**

Small balls, like found in shot gun cartridges, but smaller and uneven.

ingredients:

- 500ml Water
- 500g Urea
- 300ml Nitric Acid (concentration should be 65% if more add water).

1. Add urea to water (H<sub>2</sub>O) and stir until it all dissolves.
1. Pour nitric acid into solution . at this stage you will see urea nitrate forming at bottom of see through container
1. Let it settle for 2 hours.
1. Filter, clean with cold water or sodium carbonate 2.5 % Test with pH paper . let it dry.

### **Another method**

1. Get any amount of urea put in container pour nitric acid until submerged.
1. Stir until you get a thick mixture like a pudding white in colour.
  1. Let it settle for a while then filter, rinse with cold water or sodium carbonate solution 2.5%. Then test for acids using pH paper.

### **HOW TO EXTRACT UREA FROM ANIMAL OR HUMAN URINE**

1. Boil 1 ltr of human or animal urine till only 1/10 of the size is left (or 100 ml).
1. Filter and dispose of the leftovers onto the filter paper.
1. Add 1/3 cup of nitric acid (65% concentrate) to the liquid.
1. Filter and dispose of the liquid. What is left over is urea nitrate.
1. Add cold water to clean the urea nitrate.

1. Let it dry for about 16 hrs.

NOTES

1. Urea nitrate is a explosive material by itself and can be mixed with TNT
1. If we use the first method we should get about 190g of urea nitrate.
1. Nitro fas, supertrible, urea and ammonium nitrate are all fertilisers.
1. Nitro fas is stronger than ammonium nitrate.

mixture:

Urea nitrate	6mea		
sulphur		2mea	
Al	2mea		200% TNT

## CHLORATE MIXTURES

These mixtures are made of explosive material that is rich in oxygen and oxidising material. Following the general equation for making the mixtures. Which is : 80-88% (material rich in oxygen) plus 12-20% (oxidising material)

Materials rich in oxygen include potassium chlorate, sodium chlorate, and nitrate and nitrate groups, such as ammonium, sodium nitrates and potassium permanganate.

- |    |   |          |   |         |   |
|----|---|----------|---|---------|---|
| 1- | KClO <sub>3</sub>                                     | 6 parts  |   |         |   |
|    | KMNO <sub>4</sub>                                     | 2 parts  |   |         |   |
|    | KNO <sub>3</sub> NaNO <sub>3</sub> NaClO <sub>3</sub> |          |   |         |   |
|    | NH <sub>4</sub> NO <sub>3</sub>                       | 3 parts  |   |         |   |
|    | Al or CU  | 3 parts  |   |         |   |
|    | Na  | 3 parts  |   |         |   |
|    | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>         | 1 parts  |   |         |   |
|    | S   | 1 parts  |   |         |   |
|    | C   | 1 parts  |   |         |   |
|    | ngine Oil   | 1 parts  |   |         |   |
| 2- | KClO <sub>3</sub>                                     | 6 parts  | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> | 3mea    | C |
|    | 1mea  |          |   |         |   |
|    | Al  | 1mea     | Engine oil                                    | 1 parts |   |
| 3- | KClO <sub>3</sub>                                     | 6mea     |   |         |   |
|    | NH <sub>4</sub> NO <sub>3</sub>                       | 3mea     |   |         |   |
|    | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>         | 2mea     |   |         |   |
|    | S   | 1 parts  |   |         |   |
|    | C   | 1 parts  |   |         |   |
|    | Al  | 3mea     |   |         |   |
|    | Engine oil  | 1mea     |   |         |   |
| 4- | KMNO <sub>4</sub>                                     | 12 parts |   |         |   |
| Al |   | 3 parts  |   |         |   |
| 5- | Match stick powder                                    | 3 parts  |   |         |   |
|    | Sugar   | 1 parts  |   |         |   |
| 6- | KClO <sub>3</sub>                                     | 7 parts  |   |         |   |
|    | S   | 7 parts  |   |         |   |
|    | Al  | 1 parts  |   |         |   |
|    | sugar   | 1 parts  |   |         |   |
| 7- | Match stick powder                                    | 3mea     |   |         |   |
|    | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>         | 1mea     |   |         |   |
| 8- | KClO <sub>3</sub>                                     | 7 parts  |   |         |   |
|    | S   | 7 parts  |   |         |   |
|    | Al  | 1 PARTS  |   |         |   |
|    | Sugar   | 1 parts  |   |         |   |



9-	KClO <sub>3</sub> 1meas Engine oil	6meas 1meas		NaClO <sub>3</sub> 3meas		Al
10-	KClO <sub>3</sub> Al C	6meas 1meas 3meas		NaNO <sub>3</sub> 3meas Engine oil 1meas		
11-	KClO <sub>3</sub> coffee sugar S	2.5 parts 1 parts 1 parts 1mea				
12-	KClO <sub>3</sub> S sugar C Al	7 parts .5 parts .5 parts 1mea 1mea				
13-	KClO <sub>3</sub> 2meas Al Engine oil	6meas S 3meas 1meas		KMNO <sub>4</sub> 1meas	3meas C	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> 1meas
14-	KNO <sub>3</sub> saw dust Al	1.5 parts 1.5 parts 1.5 parts				
15-	KClO <sub>3</sub> NaCl 1meas Al	6meas 3meas C 1meas		C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> 1meas Engine oil 1meas		S
16-	NH <sub>4</sub> NO <sub>3</sub> Al	12 parts 3 parts				
17-	KClO <sub>3</sub> 2meas C Engine oil	6meas S 1meas 1meas		KNO <sub>3</sub> 2meas Al 1meas	3meas 1meas	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>
18-	KClO <sub>3</sub> sugar coffee Al	7 parts 1 parts 1 parts 1 parts				

#### HOW TO GET POTASSIUM CHLORATE

Boil match sticks till match bits fall off, get rid of the sticks then filter the solution, get rid of the left over substance the filter paper, heat the liquid till most (but not all) of the water evaporates. Allow to dry naturally. What remains is coloured potassium chlorate.

Note each box of matches contains 1 GR of KClO<sub>3</sub>

#### EXPLOSIVE BLACK GUN POWDER

Ingredients

gun powder 50g  
magnesium powder 50g  
mix well when used in explosive gives a flash and creates lots of heat

### WHITE GUN POWDER

ingredients

KClO<sub>3</sub> 3 parts  
Sugar 1 parts

### YELLOW GUN POWDER

ingredients

KClO<sub>3</sub> 2 parts  
Al 1 parts  
S 1 parts

Notes:

1. add sulphur to KClO<sub>3</sub> mix thoroughly then add aluminium powder
1. this mixture can be used in impact bomb
1. can be ignited using acid, fire or heat.

## SECRET INKS

Secret inks are chemicals that used to write on special kind of paper, which can be treated chemically or with heat in order to show the writing . There are basically two types of inks:

### 1.ORGANIC.

which is any organic liquid or fluid or extract from any organic material, animals or humans. e.g. milk, acetic acid, human or animal urine, lemon juice, fruit juice, orange juice, onion juice and grape juice. To make the written material with this type of ink visible or appear again we expose the writing to heat source this can be matches, lamp, hairdryer or iron. If you use any organic juice it will write and if you let it dry it will disappear and if it is exposed to heat as described above it will appear in yellow or brown colour.

Using onion juice we can expose it to sunlight to make it appear in reddish or brownish colour (average results).

Brown ink which is made of any of the following: grape juice, lemon juice, acetic acid and yoghurt (not powder yoghurt) and to read expose it to heat as described before. (good results)

### 2.CHEMICAL.

these are any chemical liquids that disappear or become invisible when they dry. When treated with certain chemical substances they appear again in different colours.

Ammonium chloride can be used as invisible ink and to make it appear expose it to heat in one of the methods described above.

Get some aspirin (not baby aspirin) dissolve in alcohol(methanol or ethanol) and use it to write. To make the writing appear again get a piece of cotton, wet it with alcohol and wipe the writing and it should appear. This may need to be repeated.

Vitamins that have no colour like vitamin A or penicillin these are secret inks.

## CHEMICAL INKS

### 1.THE ISRAELI LIGHT BLUE INK.

This ink is made of 8 grams of copper sulphate (CUSO<sub>4</sub>) dissolve in 473ml of distilled or purified water and some transparent glue or sugar should be added and to make it appear we use ammonia (NH<sub>4</sub>) solution.

## **2.THE LIGHT BROWN INK.**

This is made of 120g of copper sulphate ( $\text{CuSO}_4$ ) dissolved in one litre of purified water with 80drops of sulphuric acid full concentration. To read use ammonia solution (liquid) the colour is light brown better results than earlier.

## **3.BROWN INK.**

It's made of 62g of copper sulphate ( $\text{CuSO}_4$ ) dissolve in one litre of pure water to read get 54g potassium perosyanide dissolve in one litre of pure water. This writing will remain for 3 months (Great results).

## **4.POTASSIUM INK.**

Get a tea spoon full of potassium nitrate dissolve in 1/3 of cop of water add some glue & mix thoroughly. To read expose it to heat or light a match and heat the writing and the letters will burn. Black in colour (Good result).

## **5.SULPHURIC INK.**

Using a writing tip coated in gold you can use a solution made of sulphuric acid and water and to make it appear expose it to heat. (Good results).

## **6.BROWN INK.**

Dissolve potassium chlorate ( $\text{KClO}_3$ ) in water and to make it appear expose writing to heat. (Good results).

## **7.SHINING BLUE INK.**

Grind some aspirin dissolving in ethanol till it completely disappears and write. To read submerge the paper in water and writing will appear. When it is dried again it will disappear and reappear when wet.

### **TIPS.**

1. To check for secret inks we burn iodine and will expose the letter to the gases that result from the burning. This gases will expose all the secret inks.
1. To make dry writing disappear get some cotton and wet it with break fluid and wipe over the writing this may have to be repeated several times.
1. To wipe liquid ink and stamps get some cotton wet it with clore (which is used in laundries) and wipe over the writing. You may repeat this several times.

### **NOTES:**

1. Use good paper that will not spread the ink when wet.
1. Don't push very hard when writing with the secret ink.
1. When wanting to write a secret letter, start of writing a normal letter that has regular news and miss lines where you want the secret message to be and fill it in with the secret ink.
1. Avoid writing any information that will attract attention on a regular letter.

### SPEED OF EXPLOSIVES

Lead azed	5327 m/s	Mercury fulminate	5032 m/s
Acetone peroxide	3750 m/s	Bicric acid	7750 m/s
Tetrayl	7200 m/s	RDX	8387 m/s
P.E.T.N	8387 m	TNT	6860 m/s
C4	8630 m/s	C3	7625 m/s
Plastecene dynamite	3965-7610 m/s	mines dynamite	5185 m/s
Normal dynamite	7500 m/s	Nitro glycerine	7700 m/s
Nitro cellulose(dry)	7300m/s	Nitro cellulose(moist)	5500 m/s
Black gun powder	400 m/s	Amonal	5300 m/s

### COMPOUNDS RICH IN OXYGEN

Potassium chlorate	(KClO <sub>3</sub> )
Sodium chlorate	(NaClO <sub>3</sub> )
Sodium nitrate	(NaNO <sub>3</sub> )
Potassium nitrate	(KNO <sub>3</sub> )
Potas. Permanganate	(KMNO <sub>4</sub> )
Sodium nitrite	(NaNO <sub>2</sub> )
Potassium nitrite	(KNO <sub>3</sub> )
Barium nitrate	(BRNO <sub>3</sub> )
Chrome nitrate	(CRNO <sub>3</sub> )

### OXIDIZING MATERIALS

Aluminium powder	(Al)
Magnesium powder	(Mg)
Copper powder	(CU)
Carbon	(C)
Sulphur	(S)
Sugar	(C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> )
Grease	
Sawdust	

NAME	CHEM. ABR.	SOURCES
NITRIC ACID	HNO <sub>3</sub>	SCHOOLS, HOSPITALS, PRINTERS
SULPHURIC ACID	H <sub>2</sub> SO <sub>4</sub>	CAR BATTERIES, SCH, HOS
BENSOIC ACID	C <sub>6</sub> H <sub>5</sub> COOH	PHARM,
ACETIC ACID	CH <sub>3</sub> COOH	SCH, SOFT DRINKS ETC.
HYDROCHLORIC ACID	HCl	FACT, SCH
CARBOLIC ACID	C <sub>6</sub> H <sub>5</sub> O <sub>5</sub>	PHARMACIES
CARBONIC ACID	H <sub>2</sub> CO <sub>3</sub> (CO <sub>2</sub> )	SCH, LABS
CITRIC ACID	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	STORES
HYDROFLUORIC ACID	HF	SCH, LABS
SODIUM NITRATE	NaNO <sub>3</sub>	SCH, HOS, CHEM. LABS (FERTILIZER)
POTASSIUM NITRATE	KNO <sub>3</sub>	SCH, MINERAL EXCAV.
LEAD NITRATE	PbNO <sub>3</sub>	CHEM. STORES
SILVER NITRATE	AgNO <sub>3</sub>	SCH, LABS
BARIUM NITRATE	BANO <sub>3</sub>	SCH, CHEM., MED. FACT
SODIUM CHLORATE	NaClO <sub>3</sub>	TEXTILE, INSECT REPEL, HOS,
POTASSIUM CHLORATE	KClO <sub>3</sub>	SCH, TEXT IND., PAINT STORES
SODIUM CARBONATE	NaCO <sub>3</sub>	STORES
POT. CARBONATE	K <sub>2</sub> CO <sub>3</sub>	FACT.
SODIUM CHLORIDE	NaCl	STORES
POT. HYDROXIDE	KOH	SCH, FACT, CHEM.

SODIUM HYDROXIDE	NaOH	CHEM.
ALUMINUM SULPHATE	$Al_2(SO_4)_3$	LABS, SCH
COPPER SULFATE	$CuSO_4$	SCH, LABS
CALCIUM CARBONATE	$CaCO_3$	SCH
POT. PERMANGANTE	$KMnO_4$	SCH, LABS
POT. FERRO CYANIDE	$K_4Fe(CN)_6$	SCH, LABS, PHARM
POT. PERCHLORATE	$KClO_4$	SCH, CHEM., LABS
POTASSIUM	K	SCH, FACT
SODIUM AZED	$NaN_3$	LABS, CLINICS
AMMONIUM NITRATE	$NH_4NO_3$	SCH, CHEM. STORES
GLYCERIN	$C_3H_5(OH)_3$	SOAP FACT, PHARM
ETHANOL	$C_2H_5OH$	PHARM
SUGAR	$C_6H_{12}O_6$	STORES
GREASE		CAR STORES
UREA	$CO(NH_2)_2$	FERTILIZER STORES
KEROSENE		PETROL STATION
VASELINE		STORES
BENZENE(PETROL)	$C_6H_6$	GAS STATION
TETRACHLORIDE	$CCl_4(CTC)$	TEX., SCH, INS REPEL
ACETONE	$C_2H_6O$	NAIL VARNISH REMOVER
HYDROGEN PEROXIDE	$H_2O_2$	STORES, PHARM
METHANOL	$CH_3OH$	SCH, CHEM. DIST.
CARBON	C	CHARCOAL
SULFUR	S	CHEM., AGRICATURE, STORES
ALUMINUM POWDER.	Al	PAINTS, SCH, WORKSHOPS
MAGNESIUM POWDER	Mg	PAINTS, SCH, FACT,
LEAD	Pb	DYEING, POLES
NITRO BENZENE	$C_6H_5NO_2$	PHARM, LABS, PAINT SHOPS,
NITRO METHANE	$CH_3NO_2$	PHARM, LABS, SCH
IRON OXIDE	$Fe_2O_3$	PAINT STORES
TOLUENE	$C_6H_5CH_3$	PAINT
MERCURY	Hg	SCH, FACE, THERMOMETERS
HEXAMENE	$C_6H_{12}N_4$	PHAR, SIC, HOS
AMMONIA	$NH_4OH$	STORES
DIMYTHYLALENEN	$(CH_3)_2NN$	SCH, TEX., PRINT, CHEM.
CARBOLIC ACID	$C_6H_5O_3$	SCH. PHARM
MATCHES	S	AGRICULTURE
POT. CHROMATE	KCr	SCH, CHEM., PRIN.
POT. PICROMATE	$KCrO_4$	SCH, TEXT
TETRA CARBON CHLORIDE	$CCl_4$	CHEM
HYDRAZINE HYDROXIDE	$N_2H_5OH$	CHEM.
FLURODRIC ACID	FCI	SCH, TEXT FACT
HYDRO CHLORIDRIC	HCl	SCH, PRINTERS
FERRIC SULPHATE	$FeSO_4$	SCH, LABS