

## CHEMICAL PRECURSORS

### Common Precursors

**Strong Acids** Sulfuric "Battery"-H<sub>2</sub>SO<sub>4</sub>  
 Nitric-HNO<sub>3</sub>  
 Hydrochloric  
 "Muriatic"-HCl  
 Hydrogen Peroxide-H<sub>2</sub>O<sub>2</sub>  
 Urea (Fertilizer 46-0-0)  
 Acetone  
 Methyl Ethyl Ketone (MEK)  
 Alcohol (Ethyl or Methyl)  
 Ethylene Glycol (Antifreeze)  
 Glycerin(e) (Glycerol)  
 Hexamine (Camp Stove Tablets)  
 Citric Acid (Sour Salt)

### Nitrate Based Explosives

<b>Nitroglycerine (NG)</b>	Glycerine Nitric Acid+Sulfuric Acid
<b>Ethylene Glycol Dinitrate (EGDN)</b>	Ethylene Glycol Nitric Acid+Sulfuric Acid
<b>Methyl Nitrate</b>	Methyl Alcohol (Methanol) Nitric Acid+Sulfuric Acid
<b>Urea Nitrate</b>	Urea Nitric Acid
<b>Nitrocotton (Gun Cotton)</b>	Cotton Nitric Acid+Sulfuric Acid

### Peroxide Based Explosives

<b>Triacetone Triperoxide (TATP)</b>	Acetone Hydrogen Peroxide Strong Acid
<b>Hexamethylene Triperoxide Diamine (HMTD)</b>	Hexamine Hydrogen Peroxide Citric Acid
<b>Methyl Ethyl Ketone Peroxide (MEKP)</b>	Methyl Ethyl Ketone Hydrogen Peroxide Strong Acid

### Primary Explosives

<b>Mercury Fulminate</b>	Mercury Nitric Acid
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## OXIDIZERS

### Oxidizer Names/Chemical Symbols

Perchlorate/ $\text{ClO}_4$	Nitrate/ $\text{NO}_3$	Iodate/ $\text{IO}_3$
● Chlorate/ $\text{ClO}_3$	● Peroxide/ $\text{O}_2$	Chromate/ $\text{CrO}_4$
Hypochlorite/ $\text{OCl}$	Permanganate/ $\text{MnO}_4$	Dichromate/ $\text{Cr}_2\text{O}_7$

### Cations Associated with Oxidizers

Sodium (Na)	Calcium (Ca)	Strontium (Sr)	Silver (Ag)
Potassium (K)	Ammonium ( $\text{NH}_4$ )	Lead (Pb)	Hydrogen (H)
Barium (Ba)	Lithium (Li)		

- Chlorates and peroxides can produce very sensitive and energetic explosions

### Examples of Oxidizer Compounds

Ammonium Perchlorate =  $\text{NH}_4\text{ClO}_4$

Sodium Chlorate =  $\text{NaClO}_3$

Calcium Hypochlorite =  $\text{Ca}(\text{OCl})_2$

Ammonium Nitrate =  $\text{NH}_4\text{NO}_3$

Potassium Nitrate =  $\text{KNO}_3$

● Hydrogen Peroxide =  $\text{H}_2\text{O}_2$

● Barium Peroxide =  $\text{BaO}_2$

Potassium Permanganate =  $\text{KMnO}_4$

Lead Iodate =  $\text{Pb}(\text{IO}_3)_2$

Lithium Chromate =  $\text{Li}_2\text{CrO}_4 \cdot 2\text{H}_2\text{O}$

Potassium Dichromate =  $\text{K}_2\text{Cr}_2\text{O}_7$

# FUELS

## Hydrocarbons

Gas	Vaseline
Diesel (FO)	Dextrin
Kerosene	Shellac
Naphtha	Rosin
Carbon Black	Sawdust
Charcoal	Alcohol
Sugar	Ethylene Glycol
Wax/Paraffin	

## Energetic Hydrocarbons

Nitrobenzene (NB)  
Nitromethane (NM)  
Nitrocellulose (NC)

## Elemental “Hot” Fuels

**Powdered** Aluminum (Al)  
**Metals** Magnesium (Mg)  
Magnalium (Mg/Al-50/50)  
Zirconium (Zr)  
Copper (Cu)  
Phosphorus (P)  
Sulfur (S)  
Antimony Trisulfide ( $Sb_2S_3$ )

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## EXPLOSIVE MIXTURES

### Common Oxidizers

Sodium Chlorate- $\text{NaClO}_3$

Potassium Chlorate- $\text{KClO}_3$

Ammonium Perchlorate- $\text{NH}_4\text{ClO}_4$

Calcium Hypochlorite- $\text{Ca}(\text{OCl})_2$

Ammonium Nitrate (AN)- $\text{NH}_4\text{NO}_3$

Potassium Nitrate (Saltpeter)- $\text{KNO}_3$

Hydrogen Peroxide- $\text{H}_2\text{O}_2$

Barium Peroxide- $\text{BaO}_2$

Potassium Permanganate- $\text{KMnO}_4$

Nitric Acid- $\text{HNO}_3$

### Nitrate Blends

**ANFO** Ammonium Nitrate (AN)  
Diesel Fuel (FO)

**ANAI** Ammonium Nitrate (AN)  
Aluminum Powder (AI)

**ANS** Ammonium Nitrate  
Sulfur Powder

**ANIS** Ammonium Nitrate  
Icing Sugar

**Black Powder** Potassium Nitrate  
Charcoal  
Sulfur

### Chlorate/Perchlorate Blends

**Flash Powder** Potassium Chlorate/  
Perchlorate  
Aluminum Powder  
Magnesium Powder  
Sulfur

**Poor Man's C-4** Potassium Chlorate  
Vaseline

**Armstrong's Mixture** Potassium Chlorate  
Red Phosphorus

### Liquid Blend

**Hellhoffite** Nitric Acid  
Nitrobenzene (NB)

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