

Homemade Explosives Recognition Guide

Homemade Explosives

Chemical Components

Manufacturing Equipment

All individuals handling this information are required to protect it from unauthorized disclosure. This information should be disseminated on a need-to-know basis.

This document is not for public use, but is intended for use by military, federal, state, and local agencies as a reference for training and operations by emergency personnel in preparing for and responding to a terrorist incident.

WARNING

- DO NOT handle any unknown chemicals or explosive materials
- Consider all unknown substances and materials dangerous
- Apply this guide with previous training and experience
- Contact your EOD or Bomb Squad immediately if a possible homemade explosives production area has been identified

Please enter your EOD/Bomb Squad contact information here:

The information in this guide is for recognition and awareness purposes only. The information is general and may not reflect the most recent threats.

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This booklet is a quick reference guide describing indicators and warnings related to homemade explosives. It is intended to aid military, federal, state, and local law enforcement personnel to visually recognize the materials, chemicals, and equipment associated with the manufacture of homemade explosives. The examples in this guide were selected based on historical incidents, intelligence on emerging threats, and the commercial availability of the components. Given the variety of commercial materials available for the manufacture of homemade explosives, this guide should not be considered all-inclusive. Instead, it should be used to establish a basic understanding of typical materials, chemicals, and equipment associated with the manufacture of homemade explosives and to enable on-scene personnel to determine if they are dealing with a potentially dangerous situation.

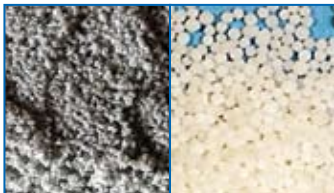
This quick reference guide is divided into the following three sections:

- The **Homemade Explosives** section describes the key identifiers and hazards of homemade explosives.
- The **Chemical Components** section describes the key identifiers and hazards of substances that could be used to create homemade explosives.
- The **Manufacturing Equipment** section summarizes the laboratory and improvised equipment that can be utilized during the manufacturing process.

- Some clandestine labs may produce both drugs and homemade explosives. Remember to look at the totality of the circumstances.
- If you think you have found a homemade explosive, DO NOT HANDLE. Contact an expert immediately.
- All explosives are sensitive to heat, shock, friction, and electrostatic discharge; sensitivity varies based on the type of explosive.
- Homemade explosives may be more or less sensitive depending on the formulation, the substitutions, the purity, and the manufacture methods.
- Homemade explosives, also known as improvised explosives, can be made from commonly available commercial chemicals with relatively minimal effort.
- Many of the chemical components can be purchased from a chemical supply store in pure form.
- Some homemade explosives may be found as small, crystalline solids that have settled to the bottom of a liquid-filled container. Some may float on top of the liquid.
- Some sensitive homemade explosives may be manufactured in a cold and/or frigid water bath to prevent explosion.
- Some homemade explosives may be kept in a refrigerator or freezer.
- Color is not a sole indicator to identify type or strength of explosive.

HOMEMADE EXPLOSIVES

Homemade explosives can be liquid, powder, or granules and can be made using commonly available chemicals and equipment.



Ammonium Nitrate Mixtures



Black Powder



Pyrotechnics



Chlorate/Perchlorate Mixtures



EGDN or NG



Pure HMTD



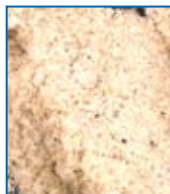
*HP and
Nitromethane
or Ethanol*



MEKP



TATP



Urea Nitrate

This page may help direct you to information that might be useful in the following situations.



If you notice.....

- Predominantly dry chemical components
- More granular than powdery product
- Grinding equipment (but not necessary)
- Simplistic safety equipment (gloves, dust masks, etc.)

Then you might review the information on...

- Ammonium Nitrate Mixtures
- Black Powder
- Chlorate/Perchlorate Mixtures



If you notice

- Liquid and some dry chemical components
- Finer, more powdery than granular product
- Pyrex, mason jars, or scientific glassware
- Filters (paper, cloth, etc.)
- Ice water baths
- Safety eye and respiratory protection
- Acid-resistant skin protection

Then you might review the information on...

- Hydrogen Peroxide Mixtures
- TATP
- HMTD
- Urea Nitrate



If you notice

- Predominantly liquid chemical components
- Liquid product
- Pyrex, mason jars, or scientific glassware
- Safety eye and respiratory protection
- Acid-resistant skin protection

Then you might review the information on...

- MEKP
- EGDN/NG Mixtures
- Hydrogen Peroxide Mixtures (some)

Ammonium Nitrate Mixtures

Key Identifiers

- **Ammonium nitrate and aluminum**

- Silvery, gray
- Powder or granules
- Odorless



Ammonium Nitrate and Aluminum

- **Ammonium nitrate and racing car fuel**

- White
- Powder or granules, moist
- Mild, fruity, but disagreeable odor



Ammonium Nitrate and Fuel Oil (ANFO)

- **Ammonium nitrate and confectioner's sugar**

- White
- Powder
- Slightly sweet odor
- Attracts sugar ants

- **Ammonium nitrate and fuel oil (ANFO)**

- Off-white to pinkish
- Granules or spherical pellets (prills)
- Fuel oil or diesel odor



*Ammonium Nitrate and Fuel Oil (ANFO)
Powder*

Hazards

- Sensitive to impact, friction, static spark, and heat
- Ammonium nitrate by itself can be explosive in hot, confined areas

Key Identifiers

- Powder or granules
- Gray, black
- Faint, indistinct odor
- Sulfur odor (rotten eggs) when burned
- Other names: *Gunpowder*

Hazards

- Sensitive to impact, friction, static spark, and heat



Black Powder



Pyrotechnics



Gray, Black Powder

Key Identifiers

- All mixtures are odorless
- **Flash Powders:**
 - Powder or granules
 - Silvery, gray
 - Other names:
Pyrotechnic Powders



Flash Powder

- **Poor Man's C4:**
 - Putty-like, solid or clumps
 - White



Poor Man's C4

- **Armstrong's Mix:**
 - Powder
 - Red

Hazards

- Extremely sensitive to impact, friction, static spark, and heat



Armstrong's Mix

Key Identifiers

- Oily, viscous liquid
- Colorless to dark yellow
- Odorless
- Other names for EGDN: *Nitroglycol, Dinitroglycol, Glycol Dinitrate, Ethylene Dinitrate*
- Other names for NG: *Trinitroglycerine, Glycerol Trinitrate*

Hazards

- Extremely sensitive to impact, friction, static spark, and heat
- Inhalation may cause headaches, dizziness, chest pain, and low blood pressure



EGDN or NG

Ethylene Glycol Dinitrate/Nitroglycerin

EGDN/NG Mixtures $\text{C}_2\text{H}_4\text{N}_2\text{O}_6/\text{C}_3\text{H}_5\text{N}_3\text{O}_9$
Homemade Explosives

Hexamethylene Triperoxide Diamine

Key Identifiers

- Crystals or powder
- Colorless to white
- Dullness like flour
- Solids settled at bottom and floating on top of a liquid-filled container
- Consistency of confectioner's sugar in dry state or pure form
- Can smell like dead fish
- Fresh product may have little or no odor
- Additives can alter the physical appearance
- Precursor colors will affect HMTD color
- May be stored in refrigerator or freezer

Hazards

- Contact with metals may produce dangerous chemical reactions
- Extremely sensitive to impact, friction, static spark, and heat



Solids Settled at Bottom of Container



Crystal HMTD



Pure HMTD

HP Mixtures

Key Identifiers

- Liquid or semiliquid gel
- Color varies with additives
- Slightly pungent, caustic odor (generally)
- Odor similar to chemical component

Hazards

- Large quantities can self-heat and ignite if in sunlight or elevated room temperatures
- Extremely sensitive to impact, friction, static spark, and heat

*HP and Nitromethane
or Ethanol*



HP and Flour



HP and Cumin



HP and Black Pepper



HP and Coffee

Key Identifiers

- Liquid
- Clear, colorless
- Agreeable odor
- Other names: *Luberisol DDM*

Hazards

- Extremely sensitive to impact, friction, static spark, and heat
- Contact with sulfuric acid may produce dangerous chemical reactions



MEKP

Methyl Ethyl Ketone Peroxide

MEKP $\text{C}_4\text{H}_{10}\text{O}_4$
Homemade Explosives

Triacetone Triperoxide

Key Identifiers

- Crystals or powder
- Sugar-like appearance
- Colorless or white
- Solid TATP settles to the bottom of a liquid-filled container
- Additives can alter the physical appearance and color
- Fruity smell, like acetone but gentler
- Old TATP smells very acid, like vinegar
- Evaporates in an open container
- If stored in a closed jar, glass may look frosted
- May be stored in a refrigerator or freezer
- Other names: *Acetone Peroxide*, *Mother of Satan*

Hazards

- Extremely sensitive to impact, friction, static spark, and heat



Crude TATP



Pure TATP



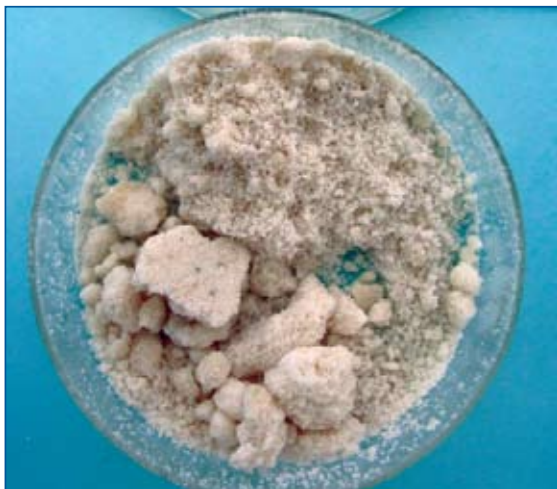
TATP

Key Identifiers

- Crystals
- Colorless to off-white
- Solids settled to the bottom of a liquid-filled container
- Additives can alter the physical appearance
- Odorless
- Other names: *Acidogen Nitrate*

Hazards

- Sensitive to impact, friction, static spark, and heat



Urea Nitrate

CHEMICAL COMPONENTS

Chemicals may be found in cool dry areas in tightly sealed containers. None of these chemicals require refrigeration, but all may be stored there. All chemicals listed can be purchased over the Internet.

Examples, Not All-Inclusive



Acetone



Nail Polish Remover



First Aid Cold Packs



Citric Acid



Sour Salt



Antifreeze



Camp Stove Fuel



Hair Products



Disinfectant



Pool Chemicals

CHEMICAL COMPONENTS

Examples, Not All-Inclusive



Flour



Coffee



Cumin



Pepper



MEK



*Strike Anywhere
Matches*



*Stump
Remover*



*Iron
Remover*



Sulfuric Acid Drain Cleaner



Sulfuric Acid Battery Fluid



Muriatic Acid



Ammonium Nitrate



Urea



Sulfur

CHEMICAL COMPONENTS

Examples, Not All-Inclusive



Various Chemicals from Chemical Supply

BINDERS

Some chemicals may be used to hold certain explosive mixtures together. These chemicals could include the following.



Grease



Motor Oils



Candle



Petroleum Jelly



Carnauba Wax (Car Wax)



Paraffin

Key Identifiers

- Liquid
- Colorless to yellow
- Sweet, flowery, perfume-like odor
- Smells like nail polish remover
- Evaporates quickly if opened
- Small quantities, up to a gallon: Glass or plastic bottles, metal containers
- Large quantities, 5 to 55 gallons: metal cans, drums
- Other names: *Dimethyl Ketone*, *2 Propanone*



Hazards

- Extremely flammable
- Eye, skin, respiratory irritant
- Vapors can be explosive
- Vapors may be present in adjacent areas
- Vapors can cause drowsiness, dizziness, and numbness in hands and feet
- Contact with chemicals rich in oxygen may produce dangerous chemical reactions

Commercial Uses

- Fingernail polish remover
- Paint remover
- Glassware cleaner for college and high school labs
- Laboratory and industrial solvent



Example Commercial Product Packaging

Key Identifiers

- Powder
- Silver, gray, black
- May also look whitish
- Odorless
- Small quantities, up to a gallon: plastic and steel containers
- Large quantities, 5 gallons or more: steel containers
- Other names: *Aluminum*



Aluminum Powder

Hazards

- Extremely flammable
- Contact with water may generate flammable gases
- Contact with acids or chemicals rich in oxygen may produce dangerous chemical reactions

Commercial Uses

- Paints
- Pyrotechnics
- Manufacture of engines, cars, structural members, etc.



Typical Chemical Supply Packaging

Example Commercial Product Packaging

Key Identifiers

- Spherical pellets (prills), granular, crystalline, or powder
- Colorless or white
- Odorless
- Small quantities, up to 5 gallons: plastic or glass containers
- Large quantities, more than 5 gallons: plastic or paper bags
- Other names: *Nitrate of Ammonium*

Hazards

- Eye, skin, respiratory irritant
- Ammonium nitrate by itself can be explosive
- Addition of powdered metals or fuels can be explosive



Typical Chemical Supply Packaging



Fertilizer-Grade Pellets (prills)



Explosive-Grade Pellets (prills)

- Contact with acids, combustible materials, or flammable chemicals may produce dangerous chemical reactions
- Excessive heat and/or sunlight may degrade product

Commercial Uses

- Fertilizers
- Explosives
- First aid cold packs



*Example Commercial
Product Packaging*

Key Identifiers

- Crystalline
- White or colorless
- Odorless
- Small quantities, up to 5 pounds: baggies, glass, or plastic containers
- Large quantities, more than 5 pounds: plastic containers, plastic/paper sacks
- May be available in tablet form
- Other names: *Hydrogen Citrate, Sour Salt*



Typical Chemical Supply Packaging

Hazards

- Contact with chemicals rich in oxygen or caustic chemicals may produce dangerous chemical reactions
- Severe eye irritant
- Skin and respiratory irritant
- Prolonged or repeated exposure may cause allergic reaction in some individuals

Commercial Uses

- Food additives
- Water softeners



Example Commercial Product Packaging

Key Identifiers

- Liquid, syrupy, viscous
- Clear, colorless (pure chemical form)
- Odorless
- Small quantities, up to 5 gallons: glass or plastic containers
- Large quantities, more than 5 gallons: plastic or steel container
- Other names: *Glycol*, *Ethanediol*, *Monoethylene Glycol*



Ethylene Glycol

Hazards

- Ingestion can cause blindness and death
- Mild eye, skin, respiratory irritant
- Contact with acids or chemicals rich in oxygen may produce dangerous chemical reactions
- Excessive heat and/or sunlight may degrade product



Antifreeze

Commercial Uses

- Plastic manufacture
- Antifreeze
- Commercial explosives



*Example Commercial
Product Packaging*

Key Identifiers

- Oily, viscous, sticky liquid
- Colorless
- Odorless
- Small quantities, up to 5 gallons: glass or plastic containers
- Large quantities, more than 5 gallons: plastic or steel containers
- Other names: *Glycerol*, *Glycerine*

Hazards

- Ingestion of large amounts may cause gastrointestinal irritation
- Mild eye, skin, respiratory irritant
- Contact with caustic, flammable, and combustible chemicals or chemicals rich in oxygen may produce dangerous chemical reactions

Commercial Uses

- Industrial processes
- Gasoline additive
- Hydrogen gas production
- Sweetener and thickening agent in foods and beverages
- Pharmaceutical: cough syrups, toothpaste, mouthwashes, shaving cream, skin care, and soap



Glycerin



Example Commercial Product Packaging

Key Identifiers

- Crystalline or solid
- White
- Slight ammonia-like odor
- Small quantities, up to 5 pounds: plastic bags or containers
- Large quantities, more than 5 pounds: containers or woven bags
- Other names:
Hexamethylenetetramine,
Methenamine



*Camp Stove
Fuel Tablets*



Hexamine Tablets

Hazards

- Flammable
- Eye, skin, respiratory irritant
- Contact with chemicals rich in oxygen, acids, peroxides, or heat may produce dangerous chemical reactions

Commercial Uses

- Camp stove fuel tablets
- Antibiotics
- Military explosives
- Pyrotechnics



Hexamine Tablet Burning



Camp Stove Kit

Key Identifiers

- Liquid
- Colorless to light yellow to greenish-yellow
- Pungent, acid, sour odor
- Corrosive, leaves burn marks
- Will burn nose
- Makes eyes water
- Can emit chlorine gas
- Various concentrations available
- Small quantities, up to a gallon: glass or plastic containers (varies by concentration)
- Large quantities, up to 55 gallons: lined steel drums, plastic containers
- Other names: *Muriatic Acid*



Typical Chemical Supply Packaging

Hazards

- Severe eye, skin, respiratory irritant (severity depends on concentration)
- Ingestion may cause death
- Corrosive
- Storage with substances other than acids, may produce adverse reactions



Example Commercial Product Packaging

Commercial Uses

- Manufacture of plastics and some chemicals
- Cleaning products such as toilet bowl cleaners

Key Identifiers

- Liquid
- Clear, colorless
- Slightly pungent, caustic odor
- Corrosive, leaves burn marks
- Whitens skin on contact
- Skin blisters
- Peels paint, bleaches items
- Various concentrations available
- Easily concentrates to higher levels
- Beautician grade may require state license to purchase
- Small quantities, up to a half gallon: glass or plastic containers (varies by concentration)
- Large quantities, 30 to 55 gallons: plastic, aluminum, or stainless steel drums (varies by concentration)
- Other names: *Dihydrogen Dioxide,*
Hydroperoxide



*35% Concentration
from Chemical Supply*



*50% Concentrations from Chemical
Supply in Various Quantities*

Hazards

- Eye, skin, respiratory irritant (severity depends on concentration)
- Inhaled vapors can cause breathing difficulties
- Concentrated vapors accumulate at ground level
- Corrosive
- Excessive heat and/or sunlight may degrade product
- Contact with metals, metal salts, rust, dust, combustible materials, or flammable chemicals may produce dangerous chemical reactions



Example Commercial Product Packaging

Commercial Uses

- Bleaching pulp and textiles
- Bleaching hair
- Disinfectants
- Environmental cleanup
- Pool water softeners
- Therapeutic health baths



Beautician-Grade HP

Key Identifiers

- Powder or solid
- Gray, black
- Odorless
- Small quantities, up to 5 gallons: plastic and steel containers
- Large quantities, more than 5 gallons: steel containers



Magnesium Powder

Hazards

- Eye, skin, respiratory irritant
- Extremely flammable
- Contact with water releases flammable gases

Commercial Uses

- Manufacture of engines, cars, structural members
- Pyrotechnics



Typical Chemical Supply Packaging

Key Identifiers

- Liquid
- Colorless
- Sweet, minty, acetone-like, agreeable odor
- Small quantities, up to 5 gallons: glass and metal containers
- Large quantities, 5 to 55 gallons: metal containers
- Dry or cracked skin
- Evaporates quickly
- Other names: 2-Butanone, MEK



Typical Chemical Supply Packaging

Hazards

- Extremely flammable
- Vapors can be explosive
- Vapors may be present in adjacent areas
- Eye, skin, respiratory irritant
- Vapors may cause drowsiness and dizziness
- Contact with chemicals rich in oxygen or caustic chemicals may produce dangerous chemical reactions

Commercial Uses

- Paint removers
- Laboratory and industrial solvents
- Plastics manufacture



Methyl Ethyl Ketone



Typical MEK Product Packaging

Key Identifiers

- Liquid
- Red-brown at 90% concentration
- Colorless to light yellow at 70% concentration
- Pungent, acid odor
- Makes the eyes water
- Corrosive
- Turns skin yellow
- Various concentrations available
- Small quantities, up to 5 gallons: glass containers
- Large quantities, more than 5 gallons: lined steel drums, plastic containers
- Other names: *Spirit of Nitre*, *Aqua Fortis*, *Hydrogen Nitrate*, *Azotic Acid*



Typical Chemical Supply Packaging

Hazards

- Severe eye, skin, respiratory irritant
- Severe skin burns
- Inhalation can be fatal
- Effects may be delayed (can be hours)
- Contact with powdered metals, combustible materials, or flammable chemicals may produce dangerous chemical reactions



Nitric Acid Shipping Container for 100 ml

Commercial Uses

- Rocket propellants
- Explosives manufacture
- Fertilizer manufacture
- Laboratory and industrial processes

Key Identifiers

- Liquid, oily
- Colorless
- Fruity, disagreeable odor
- Small quantities, up to 5 gallons: glass, metal, and plastic containers
- Large quantities, more than 5 gallons: stainless steel drums
- Other names: *Nitrocarbol*



Nitromethane

Hazards

- Shock, static spark, flame, and other ignition sources may cause explosion
- Eye, skin, respiratory irritant
- May cause headache, shallow respiration, dizziness, vomiting, weakness, and fall in blood pressure
- Contact with strong acids, combustible materials, or chemicals rich in oxygen may produce dangerous chemical reactions
- Contact with copper may cause corrosion

Commercial Uses

- Racing car fuel
- Remote control vehicle fuel
- Industrial solvent
- Propellants and explosives



Example Commercial Product Packaging

Key Identifiers

- Crystalline or powder
- White
- Odorless
- Small quantities, up to 5 gallons: glass or plastic containers, plastic baggies
- Large quantities, more than 5 gallons: sealed plastic bag inside a metal drum
- Other names: *Chlorate of Potash*, *Potassium Oxymuriate*



Typical Chemical Supply Packaging

Hazards

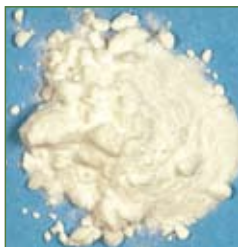
- Eye, skin, respiratory irritant
- Contact with metals, combustible materials, or flammable chemicals may produce dangerous chemical reactions



Matches

Commercial Uses

- Pyrotechnics
- Matches
- Herbicides
- Oxygen candles



Potassium Chlorate Powder Close-up



Close-up of Potassium Chlorate

Key Identifiers

- Crystalline, granular, or powder
- White
- Odorless
- Small quantities, up to 5 gallons: glass or plastic containers
- Large quantities, more than 5 gallons: sealed plastic bag inside a metal drum
- Other names: *Nitrate of Potash*, *Saltpeter*

Hazards

- Eye, skin, respiratory irritant
- Contact with metals, combustible materials, or flammable chemicals may produce dangerous chemical reactions

Commercial Uses

- Propellants
- Pyrotechnics
- Food preservatives (commercial)
- Fertilizers
- Stump remover (some)



Typical Chemical Supply Packaging



Potassium Nitrate Close-up



Stump Remover



*Not All Stump Remover
Contains Potassium Nitrate*



*Close-up of Stump
Remover Pellets*



Close-up of Potassium Nitrate

Key Identifiers

- Solid or crystalline
- Dark purple, violet
- Odorless
- Stains skin brown
- Can stain items purple
- Small quantities, up to 5 gallons: glass and plastic containers, plastic baggies
- Large quantities, more than 5 gallons: sealed plastic bag inside a metal drum

*Typical Chemical Supply Packaging***Hazards**

- Severe eye, skin, respiratory irritant
- Contact with metals, combustible materials, flammable chemicals, peroxides, or acids may produce dangerous chemical reactions

Commercial Uses

- Algae control
- Iron removal
- Disinfectants
- Water purification
- Manufacture of organics

*Potassium Permanganate
Close-up*



Iron Filter Close-up



Iron Filter



Example Commercial Product Packaging

Key Identifiers

- Powder
- White, colorless, or light yellow
- Odorless
- Small quantities, up to 3 gallons: glass or plastic containers
- Large quantities, more than 3 gallons: plastic-lined woven bags, heavy plastic bags or cartons, iron drums, knitted bags

Hazards

- Eye, skin, respiratory irritant
- Contact with acids, metals, combustible materials, caustic, or flammable chemicals may produce dangerous chemical reactions

Commercial Uses

- Herbicides
- Bleaching pulp
- Pyrotechnics



Typical Chemical Supply Packaging

Example Commercial Product Packaging



Sodium Chlorate Close-up

Key Identifiers

- Powder, chalky
- Yellow
- Odorless
- When heated, smells like rotten eggs
- Small quantities, up to 3 gallons: paper/plastic sacks, plastic containers
- Large quantities, more than 3 gallons: cardboard and metal drums
- Other names: *Sulphur*



Sulfur from Chemical Supply Close-up

Hazards

- Eye, skin, and respiratory irritant
- Contact with chemicals rich in oxygen may produce dangerous chemical reactions

Commercial Uses

- Fertilizers
- Fungicides
- Matches
- Soil additive



Example Commercial Product Packaging

Key Identifiers

- Liquid, may be viscous
- Colorless
- Pungent, acrid odor
- Various concentrations available
- Small quantities, up to a gallon: glass or plastic containers
- Large quantities, more than a gallon: carbon steel, stainless steel, polyethylene containers
- Other names: *Vitriol*, *Oleum*, *Hydrogen Sulfate*

Hazards

- Severe eye, skin respiratory irritant (severity depends on concentration)
- Severe skin burns
- Corrosive
- Contact with water, combustible materials, caustic, flammable, or oxygen-rich chemicals may produce dangerous chemical reactions



Typical Chemical Supply Packaging



Drain Pipe Cleaners

Commercial Uses

- Drain pipe cleaners
- Automotive batteries
- Polymer manufacture
- Fertilizer manufacture
- Chemical manufacture
- Oil refining



Car Battery Acid

Key Identifiers

- Crystalline, granular, or powder
- White
- Ammonia-like odor
- Small quantities, up to 3 gallons: glass or plastic containers
- Large quantities, up to 50 pounds: sealed plastic containers or bags
- Other names: *Carbamide, Carbonyl Diamide*



Typical Chemical Supply Packaging

Hazards

- Eye, skin, respiratory irritant
- Contact with chemicals rich in oxygen may produce dangerous chemical reactions

Commercial Uses

- Fertilizers
- Road de-icers
- Food supplement
- Manufacture of plastics



Urea Close-up

Example Commercial Product Packaging

MANUFACTURING EQUIPMENT

The manufacturing equipment will depend on the homemade explosive. The equipment may be scientific, simplistic, or improvised to provide grinding, mixing, stirring, distilling, filtering, and cooling capabilities.



Bucket & Plastic Ware



Slow Cooker



Coffee Pot



Filters/Funnels



Magnetic Stirrers



Coffee Grinder



Mortar/Pestle



Ball Mill

MANUFACTURING EQUIPMENT



Blenders/Mixers



Hot Plate



Gloves & Goggles



N95 Dust Mask & Vapor Mask



Suspicious Venting



Ice Baths



Glassware

Grinders reduce the granule size of solid components and can be used in the production of homemade explosives.

Mortar/Pestle



*Handheld Electric
Coffee Grinder*



*Commercial-Grade
Coffee Grinder*



Ball Mill

Mixers physically blend components while **stirrers** combine liquid components. Either or both can be used in the production of homemade explosives.



Blenders/Mixers



Magnetic Stirrers



Suspicious Buckets/Plasticware

Ice baths cool mixtures that generate heat and can be used in the production of homemade explosives. Bath water can be ice with salted water or dry ice with acetone.

Glass Containers in Ice Chest



Distillers concentrate chemical components with low-level heat. Distillers may include complex scientific equipment or household items used in improvised methods.



Rotovap



Coffee Pot



**Improvised
Distillation
Column**



**Stovetop
with Pot**



Slow Cooker

Filters separate the solids from the liquids and could be used in the production of homemade explosives.



Coffee Filters



Coffee Filter Used with Funnel and Jar

Safety equipment provides personal protection. It may prevent the formation of physical indicators such as whitening skin. Safety equipment may or may not be present, can be improvised, and can include the following items.

- Dusk masks or respirators
- Safety glasses, chemical goggles, face shields
- Impermeable gloves
- Acid-resistant aprons
- Protective clothing
- Ventilated area, with open windows, doors, fans, fume hoods



Rubber Gloves



N95 Dust Mask and Vapor Mask



Safety Goggles



Face Shield



Flexible Dryer Vent Pipe

