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# **Environmental Monitoring Series**

## **Hazardous Materials Spill Monitoring**

### **Safety Handbook and Chemical Hazard Guide**

#### **Part B - Chemical Data**



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HAZARDOUS MATERIALS SPILL MONITORING

Safety Handbook and Chemical Hazard Guide  
Part B - Chemical Data

by

Llewellyn R. Williams, Eleftheria Calliga, and Robert W. Thomas

Water and Land Quality Branch  
Monitoring Operations Division  
Environmental Monitoring and Support Laboratory  
Las Vegas, Nevada

ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY  
OFFICE OF RESEARCH AND DEVELOPMENT  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
LAS VEGAS, NEVADA 89114

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## SECTION 1. INTRODUCTION

Part B - Chemical Data should be used in conjunction with Part A of this manual as a reference to the nature and known hazards of 655 specific chemical compounds. Safety and first aid measures in the event of exposure are included. Part B is not designed as a stand-alone reference. It is packaged in its present form, separate from Part A, to facilitate the addition of new chemical data sheets and allow update or modification of the chemical data already included, as new information becomes available.

*It is strongly recommended that personnel be familiar with the contents of this manual and have read the introductory chapters (Part A) prior to responding to spills of any type.*

*Part A should be inserted and maintained in a loose-leaf binder with Part B. The user must be familiar with the explanatory information of Part A to effectively utilize the chemical data sheets in Part B of this manual.*

Part A discussed toxicity and factors determining and influencing toxic effects; protective measures to avoid exposure, and first aid practices in the event of exposure to hazardous substances; and factors which may complicate the spill-site picture. Also included in Part A is a method for prioritizing chemical spills on the basis of specific health, reactivity and fire hazards and historical spill frequencies. A group of 273 chemical compounds are so ranked, using the formula presented.

Information essential to the effective use of the chemical data sheets (Part B), e.g., explanation of the coding system for hazard identification, as well as the sources of the chemical information used are presented in Part A.

Part B contains an index of the 655 chemical compounds addressed by this manual, followed by alphabetized chemical data sheets with specific precautionary information and first aid procedures. The data sheets cross-reference the known common synonyms of the various chemicals as well as available trade names.

The information included in the chemical data sheets of Part B represents material that was available in the source reference documents as of 1975. Data sheets are included for 655 compounds, even when no information was listed. These sheets can be updated as information on the compounds becomes available.

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| Trichlorfon              | 605  | Zinc chloride            | 645  |
| Trichloroethane          | 606  | Zinc compounds           | 646  |
| Trichloroethylene        | 607  | Zinc cyanide             | 647  |
| Trichlorofluoromethane   | 608  | Zinc fluoride            | 648  |
| Trichlorophenol          | 609  | Zinc formate             | 649  |
| Tricresyl phosphate      | 610  | Zinc hydrosulfide        | 650  |
| 1-Tridecene              | 611  | Zinc nitrate             | 651  |
| Triethanolamine          | 612  | Zinc permanganate        | 652  |
| Triethylamine            | 613  | Zinc phenolsulfonate     | 653  |
| Triethylbenzene          | 614  | Zinc phosphide           | 654  |
| Triethylenetetramine     | 615  | Zinc potassium chromate  | 655  |
| Trimethylamine           | 616  | Zinc propionate          | 656  |
| Turpentine               | 617  | Zinc silicofluoride      | 657  |
| Undecanol                | 618  | Zinc sulfate             | 658  |
| 1-Undecene               | 619  | Zinc sulfate monohydrate | 659  |
| Uranium peroxide         | 620  | Zirconium acetate        | 660  |
| Uranyl acetate           | 621  | Zirconium ammonium       |      |
| Uranyl nitrate           | 622  | fluoride                 | 661  |
| Uranyl sulfate           | 623  | Zirconium compounds      | 662  |
| Valeraldehyde            | 624  | Zirconium nitrate        | 663  |
| Vanadium compounds       | 625  | Zirconium oxychloride    | 664  |
| Vanadium oxytrichloride  | 626  | Zirconium potassium      |      |
| Vanadium pentoxide       | 627  | fluoride                 | 665  |
| Vanadyl sulfate          | 628  | Zirconium sulfate        | 666  |
| Vinyl acetate            | 629  | Zirconium tetrachloride  | 667  |


### SECTION 3. CHEMICAL DATA SHEETS








|                    |  |   |
|--------------------|--|---|
| CAS No.<br>64-19-7 | <p style="text-align: center;"><b>ACETIC ACID</b></p> Colorless, watery liquid; strong vinegar odor.   |  |
| SYNONYMS           | Ethanoic acid, vinegar acid, methane carboxylic acid, glacial acetic acid. Vinegar is dilute acetic acid.  |   |
| SAFETY MEASURES    | Avoid contact with liquid or vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing.   |   |
| HAZARDS            | <p>Combustible.<br/> Vapor may explode if ignited in an enclosed area.<br/> High explosive hazard when exposed to flame.</p> <p>Can be irritating, can cause burns.<br/> When heated to decomposition it emits toxic fumes.<br/> Repeated inhalation of vapor may cause chronic inflammation of upper respiratory tract and chronic bronchitis.</p> <p>TLV 10 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/> Irritating to nose and throat.<br/> If inhaled will cause coughing, nausea, vomiting or difficult breathing.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid or Solid</u><br/> Will burn skin or eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> Flush affected areas with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>108-24-7    | <p style="text-align: center;"><b>ACETIC ANHYDRIDE</b></p> Colorless, water liquid; strong vinegar odor.  |  |
| <b>SYNONYMS</b>        | Ethanoic anhydride, acetyl oxide, acetic oxide.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).  |   |
| <b>HAZARDS</b>         | <p>Flammable liquid.<br/>Vapor may explode if ignited in an enclosed area.<br/>When heated to decomposition, will emit toxic fumes.<br/>Can react vigorously with oxidizing materials.<br/>Reacts vigorously with water to form acetic acid.</p> <p>Corrosive on contact with tissue.<br/>Especially hazardous to the eyes - with delayed action will cause burn.<br/>Will react violently on contact with water or steam.</p> <p>TLV 5 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Will burn eyes.<br/>Irritating to nose and throat.<br/>Move to fresh air.<br/>If in eyes, hold eyelids open and flush with plenty of water.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|---|---|
| CAS No.<br>67-64-1     | <p style="text-align: center;"><b>ACETONE</b></p> <p>Colorless, watery liquid; sweet odor.</p>  |  |
| <b>SYNONYMS</b>        | Dimethyl ketone, propanone, ketone propane.   |   |
| <b>SAFETY MEASURES</b> | Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Vapor may explode if ignited in an enclosed area.</p> <p>Narcotic in high concentrations.<br/>Can react vigorously with oxidizing materials.</p> <p>TLV 1000 ppm in air.</p> <p style="text-align: center;">DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, may cause difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>Not irritating to skin.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
| CAS No.<br>75-86-5     | <p align="center"><b>ACETONE CYANOHYDRIN</b></p> <p>Colorless, watery liquid; mild almond odor.</p>  |  |
| <b>SYNONYMS</b>        | Alpha-hydroxyisobutyranitrile, 2-methylactonitrile, oxyisobutyric nitrile.   |   |
| <b>SAFETY MEASURES</b> | <p>Stay upwind.<br/>Wear chemical protective suit with self-contained breathing apparatus.</p>   |   |
| <b>HAZARDS</b>         | <p>Combustible liquid.<br/>Forms explosive mixture with air.<br/>Readily decomposes to hydrocyanic acid and acetone.<br/>Poisonous gases are produced when heated.</p> <p>Highly toxic by ingestion, inhalation and skin absorption.<br/>TLV 10 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|---|---|
| CAS No.<br>75-05-8 | ACETONITRILE<br>Colorless, watery liquid; sweet odor.   |  |
| SYNONYMS           | Methyl cyanide, cyanomethane, ethanenitrile.  |   |
| SAFETY<br>MEASURES | Wear self-contained breathing apparatus and goggles.<br>Stay upwind.<br>Treat as cyanide.   |   |
| HAZARDS            | <p>Flammable liquid.<br/>POISONOUS GASES MAY BE PRODUCED WHEN HEATED.<br/>Can react with oxidizing materials.<br/>Vapor may explode if ignited in an enclosed area.<br/>Will react with water, steam or acids to produce toxic and flammable vapors.</p> <p>Highly toxic, can be absorbed through skin and respiratory tract.<br/>High concentrations cause rapid death.<br/>Products of decomposition are highly toxic.</p> <p>TLV 40 ppm.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>  |   |
| EXPOSURE           | <p>Treat as cyanide</p> <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|--|---|
| CAS No.<br>98-86-2 | <p style="text-align: center;"><b>ACETOPHENONE</b></p> Colorless liquid; flowery-sweet odor.   |  |
| SYNONYMS           | Acetylbenzene, methyl phenyl ketone, phenyl methyl ketone, hypnane, hypnone.   |   |
| SAFETY MEASURES    | Avoid contact with liquid.   |   |
| HAZARDS            | <p>Combustible.</p> <p>Reacts with oxidizing materials.</p> <p>Narcotic in high concentrations.</p>  |   |
| EXPOSURE           | <p><u>Liquid or Solid</u></p> <p>Irritating to eyes.</p> <p>Harmful if swallowed.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>506-96-7    | <p style="text-align: center;"><b>ACETYL BROMIDE</b></p> Colorless fuming liquid; turns yellow in air.  |  |
| <b>SYNONYMS</b>        | Ethanoyl bromide.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with skin and eyes.<br>Wear self-contained breathing apparatus and goggles, stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Highly explosive.<br/>Decomposes violently on contact with moisture.<br/>Dangerous when heated to decomposition, it produces fumes of carbonyl bromide and bromine.<br/>Reacts with oxidizing materials.</p> <p>Highly toxic by ingestion or inhalation.<br/>Strong irritant to eyes and skin.</p> <p>See bromides.</p> |   |
| <b>EXPOSURE</b>        | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>  |   |




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|------------------------|---|---|
| CAS No.<br>75-36-5     | ACETYL CHLORIDE<br>Colorless fuming liquid.   |  |
| <b>SYNONYMS</b>        | Ethanoyl chloride.  |   |
| <b>SAFETY MEASURES</b> | Wear full-protective clothing, self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Flammable liquid.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts violently with water to form acetic acid and hydrochloric acid.<br/>Reacts violently with alcohol.<br/>Severely explosive when exposed to heat or shock.<br/>When heated to decomposition, (hydrogen chloride and phosgene) extremely poisonous gases are involved.</p> <p>Highly toxic, strong irritant.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>  |   |


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|------------------------|--|---|
| CAS No.<br>74-86-2     | <p style="text-align: center;"><b>ACETYLENE</b></p> Colorless compressed gas; mild garlic odor.  |  |
| <b>SYNONYMS</b>        | Ethine, ethyne.  |   |
| <b>SAFETY MEASURES</b> | Stay upwind.<br>Wear self-contained breathing apparatus.   |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Mixture of air and acetylene will explode.<br/>At high pressure and moderate temperature, will decompose explosively to form explosive compounds with copper, silver and mercury.<br/>Forms spontaneously explosive acetylene chloride in contact with chlorine.<br/>When mixed with oxygen, acetylene can act as a narcotic and has been used as an anesthetic.</p> <p>Nontoxic but can cause asphyxiation by exclusion of oxygen.</p> <p>NOT HARMFUL TO AQUATIC LIFE.</p> |   |
| <b>EXPOSURE</b>        | <p><u>Gas</u><br/>Not irritating to eyes, nose or throat.<br/>If inhaled will cause headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p>CALL FOR MEDICAL AID.</p>   |   |


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|---------------------|--|---|
| CAS No.<br>107-02-8 | ACROLEIN<br>Colorless or yellowish liquid; choking odor.   |  |
| SYNONYMS            | 2-Propenal, acrylic aldehyde, acraldehyde, allyl aldehyde.   |   |
| SAFETY MEASURES     | Wear goggles, self-contained breathing apparatus and impervious protective clothing.   |   |
| HAZARDS             | <p>Highly flammable liquid when exposed to heat or flame. Vapor may explode if ignited in an enclosed area. When heated it decomposes to form highly toxic fumes. Can react vigorously with oxidizing materials.</p> <p>Small amounts are highly toxic and poisonous. Highly irritating to eyes and respiratory tract. May result in serious burns.</p> <p>TLV 0.5 ppm in air.</p> |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Irritates eyes, skin, and respiratory tract. May result in serious burns.<br/>IF IN EYES, hold eyelids open and flush with plenty of water. Remove contaminated clothing and shoes. Flush affected areas with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>   |   |

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|------------------------|---|---|
| CAS No.<br>79-10-7     | <p align="center"><b>ACRYLIC ACID</b></p> <p>Colorless watery liquid; irritating odor.</p>  |  |
| <b>SYNONYMS</b>        | Propenoic acid, acroleic acid, n-butyl acrylate.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/> Wear full protective clothing, goggles, self-contained breathing apparatus and rubber clothing (including gloves).</p>   |   |
| <b>HAZARDS</b>         | <p>Flammable liquid.<br/> POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/> Moderately explosive.<br/> Vapor may explode if ignited in an enclosed area.<br/> When heated to decomposition, produces lightly toxic fumes.<br/> Can react with oxidizing materials.</p> <p>Liquid corrosive to skin.<br/> Toxic - one of the most serious eye injury chemicals.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/> Irritating to eyes, nose, and throat.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid or Solid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS NO.<br>107-13-1 | ACRYLONITRILE   |  |
| SYNONYMS            | Propenenitrile, vinyl cyanide.  |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid and vapor.<br/> Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br/> Stay upwind.</p>  |   |
| HAZARDS             | <p>Highly flammable liquid.<br/> POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/> Vapor may explode if ignited in an enclosed area.<br/> Can react vigorously with oxidizing materials.<br/> Dangerous on decomposition or on contact with acid.<br/> Produces highly toxic fumes of cyanides.</p> <p>Toxic by inhalation, ingestion or skin absorption.</p> <p>TLV 20 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE            | <p>Vapor<br/> POISONOUS IF INHALED.<br/> Irritating to eyes.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p>Liquid<br/> POISONOUS IF SWALLOWED.<br/> Contact with skin may produce welts.<br/> Remove contaminated clothing and shoes.<br/> IF IN EYES hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping the victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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|---------------------|---|---|
| CAS No.<br>309-00-2 | ALDRIN<br>Brown solid or solution; mild chemical odor.  |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing, including gloves.  |   |
| HAZARDS             | <p>The dry powder will not burn.<br/>If heated to decomposition, emits highly toxic fumes of hydrogen chloride, chlorinated breakdown products and phosgene.<br/>Commercial solutions may contain flammable or combustible liquids.</p> <p>Severe poisoning may result from ingestion of 1 to 2 grams.<br/>Toxic by skin contact, inhalation, or swallowing.<br/>Solutions containing 10% or more are rapidly absorbed by the skin.<br/>Spray mists are extremely hazardous.</p> <p>TLV 25 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>                |   |
| EXPOSURE            | <p><u>Gases</u> - POISONOUS GASES ARE PRODUCED WHEN HEATED.</p> <p><u>Solid or Solution</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|--|---|
| CAS No.<br>107-18-6    | <p align="center"><b>ALLYL ALCOHOL</b></p> <p>Colorless, watery liquid; sharp mustard odor.</p>  |  |
| <b>SYNONYMS</b>        | 2-propen-1-ol, propenyl alcohol, vinyl carbinol.   |   |
| <b>SAFETY MEASURES</b> | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>   |   |
| <b>HAZARDS</b>         | <p>Highly flammable liquid.<br/>POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/>Vapor forms explosive mixture with air.<br/>Moderate explosion hazard when exposed to heat or flame.<br/>Reacts vigorously with oxidizing materials.</p> <p>Highly toxic by ingestion and inhalation.<br/>Strongly irritant to eyes.<br/>Readily absorbed through skin.<br/>High concentration causes narcosis and kidney damage.</p> <p>TLV 2 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>POISONOUS IF INHALED OR IF SKIN EXPOSED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If in eyes, hold eyelids open and flush with plenty of water.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

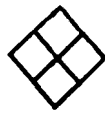



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|------------------------|---|---|
| CAS No.<br>107-05-1    | <div style="text-align: center;"><b>ALLYL CHLORIDE</b></div> Colorless to brown-red liquid; irritating odor.  |  |
| <b>SYNONYMS</b>        | 3-chloropropene, 3-chloropropylene.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing.<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | <p>Highly flammable liquid.<br/>POISONOUS GASES ARE PRODUCED IN FIRE.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.</p> <p>Highly toxic.<br/>Absorbed through the skin.<br/>Contact may result in temporary loss of vision.<br/>Vapor is painfully irritating to skin, eyes, and nose.<br/>Exposure to saturated atmosphere might be lethal in a few minutes.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>POISONOUS IF INHALED OR IF SKIN EXPOSED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Remove contaminated clothing.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
| CAS No.<br>7446-70-0   | <p style="text-align: center;"><b>ALUMINUM CHLORIDE</b></p> Yellow-grayish crystals or powder; irritating odor   |  |
| <b>SYNONYMS</b>        |  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with solid or dust.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).  |   |
| <b>HAZARDS</b>         | <p>Not explosive or combustible but may react slowly in a fire.<br/>Reacts violently with water to form hydrochloric acid.</p> <p>Highly toxic.<br/>Will cause burns on contact with skin and eyes.<br/>Severe respiratory irritant.</p> <p><b>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</b></p>   |   |
| <b>EXPOSURE</b>        | <p><u>Dust</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |

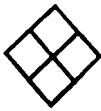





|                 |  |   |
|-----------------|--|---|
|                 | AMINES   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Toxicity variable; some are highly toxic, others only slightly. Many are skin irritants and some are sensitizers.</p> |   |
| EXPOSURE        |  |   |

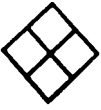
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| CAS No.<br>111-41-1    | <p align="center"><b>AMINOETHYLETHANOLAMINE</b></p> Colorless liquid; mild ammonia odor.  |  |
| <b>SYNONYMS</b>        | Hydroxyethyl-ethylenediamine, N-(2-aminoethyl), ethanolamine, 2[(2-aminoethyl)amino] ethanol, N-β-Hydroxyethylenediamine, N-hydroxyethyl-1,2-ethanediamine  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing.   |   |
| <b>HAZARDS</b>         | Combustible.<br>May react with oxidizing materials.   |   |
| <b>EXPOSURE</b>        | <p> <u>Liquid</u><br/> Will burn skin and eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING. </p> <p align="center">CALL FOR MEDICAL AID.</p> |   |

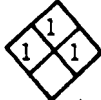
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| CAS No.<br>7664-41-7   | <p align="center"><b>AMMONIA</b></p> <p>Colorless, liquefied compressed gas; ammonia odor.</p>  |  |
| <b>SYNONYMS</b>        | Liquid ammonia, ammonia gas.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>   |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Presence of oil or other combustible materials will increase fire hazard.<br/>When exposed to heat it emits toxic fumes of ammonia.</p> <p>TLV 100 ppm in air.</p> <p><br/></p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If in eyes, hold eyelids open and flush with plenty of water.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>If swallowed, corrosive to mouth, throat and stomach.<br/>Will cause frostbite.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p><br/></p> <p>CALL FOR MEDICAL AID.</p> |   |


|                     |   |   |
|---------------------|---|---|
| CAS No.<br>631-61-8 | AMMONIUM ACETATE  |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     | Wear goggles and protective clothing.   |   |
| HAZARDS             | Combustible.<br>Potential source of burns.<br>Acid solution may cause irritation. |   |
| EXPOSURE            |   |   |

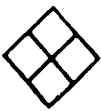



|                      |                   |   |
|----------------------|-------------------|---|
| CAS No.<br>1863-63-4 | AMMONIUM BENZOATE |  |
| SYNONYMS             |                   |   |
| SAFETY MEASURES      |                   |   |
| HAZARDS              |                   |   |
| EXPOSURE             |                   |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1066-33-7 | AMMONIUM BICARBONATE   |  |
| SYNONYMS             | Ammonium acid carbonate, ammonium hydrogen carbonate                                   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Noncombustible.<br/>Decomposes at 36°- 60°C to evolve ammonia.<br/>See ammonia.</p> |   |
| EXPOSURE             |  |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7789-09-5 | <p style="text-align: center;">AMMONIUM BICHROMATE</p> Yellow needles.   |  |
| SYNONYMS             | Ammonium dichromate.   |   |
| SAFETY<br>MEASURES   | Wear skin protection and industrial mask.<br>Fire and heat may necessitate use of self-contained breathing apparatus.  |   |
| HAZARDS              | <p>Flammable.<br/>May explode on contact with organic materials.<br/>Strong oxidizing agent.</p> <p>Dust may cause skin and nasal irritation and asthmatic symptoms.<br/>Strong solutions can be irritating to skin.</p> <p>See chromium compounds.</p> <p>TLV .01 mg/m<sup>3</sup> in air.</p>  |   |
| EXPOSURE             | <p><u>Solutions</u><br/>If swallowed, cause prompt vomiting.<br/>If retained, may lead to kidney injury and ulceration of the stomach.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.</p> <p><u>Dust</u><br/>Irritating to skin and respiratory tract.<br/>Move to fresh air.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>1341-49-7   | <p align="center"><b>AMMONIUM BIFLUORIDE</b></p> White crystals.  |  |
| <b>SYNONYMS</b>        | Ammonium hydrogen fluoride, ammonium acid fluoride.   |   |
| <b>SAFETY MEASURES</b> | Wear self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Decomposes in hot water.</p> <p>Highly toxic, strong irritant.</p> <p>See fluorides and ammonia.</p> <p>TLV 2.5 mg/m<sup>3</sup> of air.</p> |   |
| <b>EXPOSURE</b>        | <p align="center">CALL FOR MEDICAL AID.</p>   |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10192-30-0 | AMMONIUM BISULFITE<br>White crystals.  |  |
| SYNONYMS              | Ammonium hydrogen sulfite  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Will react with water to form toxic and corrosive fumes.</p> <p>See sulfates and ammonia.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |

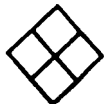
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| CAS No.<br>12124-97-9 | <p style="text-align: center;"><b>AMMONIUM BROMIDE</b></p> Colorless, cubic, slightly hygroscopic crystals.  |  |
| SYNONYMS              |  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>Noncombustible.<br/> When strongly heated, emits highly toxic fumes of bromides.</p> <p>Moderately toxic by ingestion or inhalation.<br/> May produce rash, especially on face.</p> <p>See bromides and ammonium.</p> |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>   |   |

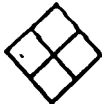




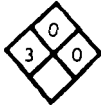


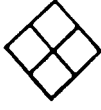
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| CAS No.<br>52110-72-2 | AMMONIUM CHROMATE<br>Yellow crystalline material.   |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Dust is moderate fire hazard.<br/> Can react with reducing materials.<br/> Can explode if shocked or heated.</p> <p>Severely toxic as chromate.<br/> Chromate salts have been associated with cancer of the lungs.<br/> Corrosive effect on skin.<br/> Highly toxic when ingested or inhaled.</p> <p>TLV 0.1 mg/m<sup>3</sup>.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |

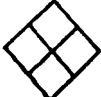
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| CAS No.<br>7632-50-0 | AMMONIUM CITRATE |  |
| SYNONYMS             |                  |   |
| SAFETY MEASURES      |                  |   |
| HAZARDS              | Slightly toxic.  |   |
| EXPOSURE             |                  |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>14481-29-9 | <p style="text-align: center;">AMMONIUM FERROCYANIDE</p> Yellow-to-blue crystals.  |  |
| SYNONYMS              |  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>Dangerous when heated to decomposition.<br/>On contact with hot concentrated acids will emit highly toxic fumes of cyanides.</p> <p>See cyanides.</p> |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>   |   |



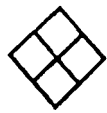
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|-----------------------|---|---|
| CAS No.<br>12125-01-8 | <p style="text-align: center;">AMMONIUM FLUORIDE</p> White crystals.                                |  |
| SYNONYMS              |   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Highly irritant and toxic.</p> <p>See fluorides and ammonia.</p> <p>TLV 2.5 mg/m (fluorides)</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |

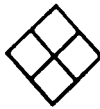
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| CAS No.<br>53238-22-5 | AMMONIUM FLUOSILICATE<br>Colorless crystals.  |  |
| SYNONYMS              | Ammonium silicofluoride, cryptohalite   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Strong irritant to skin and eyes.</p> <p>Highly toxic by ingestion and inhalation.</p> <p>TLV 2.5 mg/m<sup>3</sup> (fluorides)</p> |   |
| EXPOSURE              | <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>                                     |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>540-69-2 | AMMONIUM FORMATE<br>White deliquescent crystals. |  |
| SYNONYMS            |  |   |
| SAFETY<br>MEASURES  |  |   |
| HAZARDS             | Fire hazard.                                     |   |
| EXPOSURE            |  |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1336-21-6 | AMMONIUM HYDROXIDE   |  |
| SYNONYMS             | Ammonia water, aqueous ammonia, aqua ammonia<br>ammonium hydrate   |   |
| SAFETY<br>MEASURES   | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and<br>rubber overclothing (including gloves.)  |   |
| HAZARDS              | <p>Not flammable.<br/>When heated emits toxic fumes.<br/>Highly toxic by ingestion.<br/>Can react with oxidizing materials.</p> <p>Both liquid and vapor extremely irritating, especially to<br/>eyes.</p> <p>See Ammonia.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Irritating to skin, eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, difficult breathing<br/>or loss of consciousness.<br/>Move to fresh air.<br/>If in eyes, hold eyelids open and flush with plenty of<br/>water.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with water.<br/>IF IN EYES, hold eyelids open and flush with plenty of<br/>water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink<br/>water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

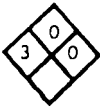


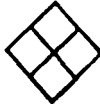
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| CAS No.<br>7803-65-8 | AMMONIUM HYPOPHOSPHITE   |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Evolves flammable and toxic fumes on heating.</p> <p>See phosphene.</p> |   |
| EXPOSURE             |  |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>12027-06-4 | AMMONIUM IODIDE<br>Colorless hygroscopic crystals.                    |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Moderately toxic.<br/>May cause skin rash.</p> <p>See iodides.</p> |   |
| EXPOSURE              |   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>11098-84-3 | <p style="text-align: center;">AMMONIUM MOLYBDATE</p> Colorless or yellowish or greenish crystals.                                    |  |
| SYNONYMS              | Ammonium paramolybdate  |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Noncombustible.</p> <p>When mixed with water emits ammonia.</p> <p>Moderately toxic and irritant to skin and mucous membranes.</p> |   |
| EXPOSURE              |   |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>6484-52-2   | <p style="text-align: center;"><b>AMMONIUM NITRATE</b></p> <p>Odorless solid pellets or flakes, white-gray-brown</p>   |  |
| <b>SYNONYMS</b>        | Nitran.  |   |
| <b>SAFETY MEASURES</b> | <p>Evacuate area of large discharge.</p> <p>Wear self-contained breathing apparatus.</p>   |   |
| <b>HAZARDS</b>         | <p>May cause fire and explode on contact with combustibles.</p> <p>POISONOUS GASES OF OXIDES-OF-NITROGEN MAY BE PRODUCED WHEN HEATED.</p> <p>CONTAINERS MAY EXPLODE IN FIRE.</p> <p>May explode under confinement and high pressure, but not readily detonated.</p> <p>Can react vigorously with reducing materials.</p> <p>When contaminated with other organic materials and flammable liquids is explosive, especially in compound spills.</p> <p>See nitrogen oxides.</p>    |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u></p> <p>POISONOUS GASES MAY BE PRODUCED WHEN HEATED.</p> <p>Get to hospital immediately.</p> <p><u>Dust</u></p> <p>Irritating to eyes, nose and throat.</p> <p>If inhaled, may cause coughing or difficult breathing.</p> <p>Move to fresh air.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breating is difficult, give oxygen.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>14258-49-2 | AMMONIUM OXALATE<br>Colorless crystals.  |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Highly toxic.</p> <p>Oxalates have caustic effect on mouth, esophagus, and stomach if swallowed.</p> <p>See oxalates.</p> |   |
| EXPOSURE              |  |   |


|                       |                                      |   |
|-----------------------|--------------------------------------|---|
| CAS No.<br>12007-39-5 | AMMONIUM PENTABORATE<br>White solid. |  |
| SYNONYMS              | Ammonium decaborate                  |   |
| SAFETY MEASURES       |                                      |   |
| HAZARDS               | See boron compounds.                 |   |
| EXPOSURE              |                                      |   |


|                        |   |   |
|------------------------|---|---|
| CAS No.<br>7790-98-9   | <p style="text-align: center;"><b>AMMONIUM PERCHLORATE</b></p> White, odorless, solid crystals.   |  |
| <b>SYNONYMS</b>        |   |   |
| <b>SAFETY MEASURES</b> | Wear goggles and self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>May cause fire and explode on contact with combustibles.<br/> CONTAINERS MAY EXPLODE IN FIRE.<br/> POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/> Severely explosive when shocked.<br/> If contaminated by reducing materials it can become a very sensitive high explosive.<br/> Strong oxidizing agent.<br/> Skin irritant.</p> <p>See ammonia and chlorates.</p> |   |
| <b>EXPOSURE</b>        | <p>Solid<br/> Irritating to eyes and skin.<br/> Harmful if swallowed.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p>  |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7727-54-0 | <p style="text-align: center;">AMMONIUM PERSULFATE</p> White crystals.   |  |
| SYNONYMS             | Ammonium peroxydisulfate   |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Strong oxidizing agent.<br/> Dangerous fire hazard on contact with organic materials.<br/> Reacts vigorously with reducing agent.</p> <p>Low toxicity.</p> <p>See sulfates.</p> |   |
| EXPOSURE             |  |   |





|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7773-06-0 | AMMONIUM SULFAMATE<br>Deliquescent crystalline material.  |  |
| SYNONYMS             | Ammate  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Dangerous when heated to decomposition or on contact with acid or water, it emits highly toxic fumes of sulfur oxides.</p> <p>Probably moderate toxicity.<br/>Ingestion may cause gastric irritation.</p> <p>TLV 15 mg/m<sup>3</sup></p> |   |
| EXPOSURE             |   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7783-20-2 | <p style="text-align: center;">AMMONIUM SULFATE</p> Brownish-gray to white crystals.                              |  |
| SYNONYMS             |   |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | Noncombustible.<br>Yields toxic gasses, ammonia and sulfur trioxide when heated above 455°F.<br><br>See sulfates. |   |
| EXPOSURE             |   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>12135-76-1 | <p align="center"><b>AMMONIUM SULFIDE</b></p> Yellow hygroscopic crystals.  |  |
| SYNONYMS              | Ammonium monosulfide.   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Moderately flammable.<br/>Evolves hydrogen sulfide (highly toxic) on contact with acid or acid fumes.</p> <p>Strong irritant to skin and mucous membranes.<br/>Toxic by skin absorption.<br/>If taken internally, is corrosive.</p> <p>See sulfides.</p>                   |   |
| EXPOSURE              | <p>Irritating to skin, eyes, nose and throat.</p> <p>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p align="center">CALL FOR MEDICAL AID.</p> |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10196-04-0 | <p style="text-align: center;"><b>AMMONIUM SULFITE</b></p> Colorless crystals.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>When heated, emits highly toxic fumes.<br/>Will react with water or acids to produce toxic and corrosive materials.</p> <p>Moderately toxic by ingestion and inhalation.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |


|                       |                   |   |
|-----------------------|-------------------|---|
| CAS No.<br>14307-43-8 | AMMONIUM TARTRATE |  |
| SYNONYMS              |                   |   |
| SAFETY<br>MEASURES    |                   |   |
| HAZARDS               |                   |   |
| EXPOSURE              |                   |   |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>1762-95-4   | <p align="center"><b>AMMONIUM THIOCYANATE</b></p> Colorless solid.  |  |
| <b>SYNONYMS</b>        | Ammonium sulfocyanate.  |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Thiocyanates are normally not dissociated into cyanides. They have low acute toxicity. Prolonged absorption may cause skin eruptions, runny nose, and occasionally dizziness, cramps, nausea and vomiting. Dangerous when heated to decomposition or in contact with acid or acid fumes, they might emit highly toxic fumes of cyanides.</p> |   |
| <b>EXPOSURE</b>        | <p align="center">CALL FOR MEDICAL AID.</p>   |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7783-18-8 | <p style="text-align: center;"><b>AMMONIUM THIOSULFATE</b></p> White, monoclinic crystals.   |  |
| SYNONYMS             | Ammonium hyposulfate.  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Dangerous when heated to decomposition; it emits highly toxic fumes of oxides of sulfur.</p> <p>Most of thiosulfates have low toxicity.</p> |   |
| EXPOSURE             |  |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>628-63-7   | AMYL ACETATE<br>Watery liquid, colorless to yellow; banana odor.  |  |
| SYNONYMS              | Acetic acid n-aryl ester.   |   |
| SAFETY MEASURES       | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS               | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.  |   |
| EXPOSURE              | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause nausea, headache or dizziness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water. |   |
| CALL FOR MEDICAL AID. |   |   |





|                        |   |   |
|------------------------|---|---|
| CAS No.<br>71-41-0     | <b>N-AMYL ALCOHOL</b><br>Colorless liquid; mild sweet odor.   |  |
| <b>SYNONYMS</b>        | 1-pentanol, primary amyl alcohol, pentyl alcohol, n-butylcarbinone.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | Flammable.<br>Vapor may explode if ignited in enclosed area.<br><br>Moderately toxic by ingestion and inhalation.<br>Maximum allowable concentration for inhalation 100 to 200 ppm.   |   |
| <b>EXPOSURE</b>        | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled will cause coughing, nausea, headache, and difficult breathing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to eyes.<br>Harmful if swallowed.<br>Irritating to skin.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |




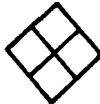
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| CAS No.<br>542-16-5 | ANILINE SULFATE |  |
| SYNONYMS            |                 |   |
| SAFETY MEASURES     |                 |   |
| HAZARDS             |                 |   |
| EXPOSURE            |                 |   |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>7647-18-9   | <p style="text-align: center;"><b>ANTIMONY PENTACHLORIDE</b></p> Reddish-yellow, oily liquid; offensive odor.   |  |
| <b>SYNONYMS</b>        | Antimonie chloride, antimony perchloride.   |   |
| <b>SAFETY MEASURES</b> | Wear full protective clothing.  |   |
| <b>HAZARDS</b>         | <p>Noncombustible but corrosive.<br/> Reacts with water and moisture to form hydrochloric acid.<br/> Heat from fire can cause evolution of chlorine gas.</p> <p>Fumes from reactions with water are toxic and irritating to eyes, skin, and mucous membranes.</p> <p>Liquid can cause skin burns.</p> <p>TLV 0.5 mg/m<sup>3</sup> in air.</p> |   |
| <b>EXPOSURE</b>        | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>  |   |


|                        |   |   |
|------------------------|---|---|
| CAS No.<br>7733-70-2   | <b>ANTIMONY PENTAFLUORIDE</b><br>Oilly, colorless liquid.   |  |
| <b>SYNONYMS</b>        | Antimony fluoride.  |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Dangerous when heated to decomposition or in contact with acid or acid fumes; it emits highly toxic fumes of antimony and fluorides.<br/> It will react with water or steam to produce toxic or corrosive fumes.</p> <p>See fluorides.</p> <p>TLV 2.5 mg/m<sup>3</sup> of air.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>  |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>16039-64-8 | <p align="center"><b>ANTIMONY POTASSIUM TARTRATE</b></p> Colorless crystals; white powder. |  |
| SYNONYMS              | Tartar emetic, potassium antimony tartrate.  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | Highly toxic by ingestion.   |   |
| EXPOSURE              |  |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7789-61-9 | ANTIMONY TRIBROMIDE  |  |
| SYNONYMS             | Antimony bromide   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Decomposes in water to form hydrogen bromide.</p> <p>Highly toxic.</p> <p>See bromides.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10025-91-9 | ANTIMONY TRICHLORIDE<br>Colorless, transparent, crystalline mass.   |  |
| SYNONYMS              | Antimonous chloride, antimony chloride, caustic antimony  |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Reacts vigorously with moisture, generating heat and hydrogen chloride gas which is highly irritating.</p> <p>Highly toxic.<br/>Strong irritant to eyes and skin.<br/>Can cause pulmonary edema when inhaled.</p> <p>See chlorides.</p>              |   |
| EXPOSURE              | <p>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7783-56-4 | <b>ANTIMONY TRIFLUORIDE</b><br>White, odorless, solid crystals.  |  |
| SYNONYMS             | Antimony fluoride.   |   |
| SAFETY MEASURES      | Avoid contact with solid.  |   |
| HAZARDS              | <p>Non-flammable.<br/>         Dangerous; when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of fluoride and antimony.<br/>         Will react with water or steam to form toxic and corrosive fumes.</p> <p>See fluorides.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p>Solid<br/>         Irritating to skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove contaminated clothing and shoes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>7790-44-5   | <p align="center"><b>ANTIMONY TRIIODIDE</b></p> Red-to-yellow crystals.  |  |
| <b>SYNONYMS</b>        | Antimony iodide.   |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | <p>Dangerous when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of iodides and antimony.</p> <p>Will react with water or steam to produce toxic and corrosive fumes.</p> <p>Highly toxic.</p> |   |
| <b>EXPOSURE</b>        | <p align="center">CALL FOR MEDICAL AID.</p>  |   |




|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1327-52-2 | <div data-bbox="680 307 867 347" data-label="Section-Header"> <p>ARSENIC ACID</p> </div> <div data-bbox="530 366 873 401" data-label="Text"> <p>White, translucent crystals.</p> </div> |  |
| SYNONYMS             | Orthoarsenic acid.  |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Dangerous when heated to decomposition or on contact with acids or acid fumes, emits highly toxic fumes of arsenic.</p> <p>Highly toxic.</p> <p>See arsenic compounds.</p>           |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |


|                 |  |   |
|-----------------|--|---|
| CAS No.         | ARSENIC COMPOUNDS  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Used as insecticides, herbicides, silvicides, defoliants, desiccants and rodenticides.<br/>         Poisoning from arsenic compounds may be acute or chronic.<br/>         Acute poisoning usually results from swallowing arsenic compounds.<br/>         Chronic poisoning from swallowing or inhalation.<br/>         Recognized carcinogen of the skin.</p> |   |
| EXPOSURE        |  |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>1303-32-8   | <p style="text-align: center;"><b>ARSENIC DISULFIDE</b></p> Red-brown crystals.  |  |
| <b>SYNONYMS</b>        | Arsenic monosulfide, ruby arsenic, red arsenic glass,<br>red arsenic sulfide, red arsenic.   |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | <p>Moderately flammable in the form of dust when exposed to heat or flame.<br/>When heated to decomposition, it emits highly toxic fumes of oxides of sulfur and arsenic.<br/>Will react with water or steam to produce toxic and flammable vapors.<br/>Can react vigorously with oxidizing materials.</p> <p>Highly toxic by ingestion or inhalation.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>   |   |

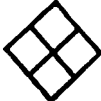



|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7784-33-0 | <p style="text-align: center;"><b>ARSENIC TRIBROMIDE</b></p> Yellowish-white crystals.        |  |
| SYNONYMS             | Arsenic bromide, arsenious bromide, arsenous bromide  |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | Decomposes in water to form bromides.<br>Highly toxic.<br>See arsenic compounds and bromides: |   |
| EXPOSURE             | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>                                      |   |





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7784-34-1 | <p style="text-align: center;"><b>ARSENIC TRICHLORIDE</b></p> <p>Clear to pale yellow corrosive, oily liquid.</p>  |  |
| SYNONYMS             | Arsenic chloride, arsenious chloride, arsenous chloride, caustic arsenic chloride, fuming liquid arsenic   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Noncombustible.<br/> Dangerous when heated to decomposition or on contact with acid or acid fumes; emits highly toxic fumes of hydrochloric acid and arsenic.<br/> Will react with water and steam to produce heat and toxic and corrosive fumes.</p> <p>Highly toxic.<br/> Strong irritant to eyes and skin.</p> <p>See arsenic compounds and hydrochloric acid.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |

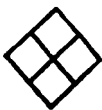
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|----------------------|--|---|
| CAS No.<br>7784-35-2 | ARSENIC TRIFLUORIDE<br>Oily liquid.  |  |
| SYNONYMS             | Arsenic fluoride   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Dangerous when heated to decomposition or on contact with acid or acid fumes; it emits highly toxic fumes of hydrofluoric acid and arsenic.<br/>Will react with water and steam to produce heat and toxic and corrosive fumes.</p> <p>Highly toxic.</p> <p>See arsenic compounds and fluorides.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7784-45-4 | ARSENIC TRIIODIDE   |  |
| SYNONYMS             | Arsenous iodide, arsenious iodide, arsenic iodide   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Highly toxic.<br/>         Decomposes in hot water to form toxic gas.<br/>         See arsenic and iodide compounds.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |

|                        |  |   |
|------------------------|--|---|
|                        | <p style="text-align: center;"><b>ASPHALT</b></p> <p>Dark brown to black thick liquid; tar odor.</p> |  |
| <b>SYNONYMS</b>        | Bitumen, petroleum pitch, asphalt bitumen residual oil,<br>Trinidad pitch, mineral pitch             |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Will burn skin and eyes.<br>Flush affected areas with plenty of water.              |   |


|                        |  |   |
|------------------------|--|---|
|                        | <b>ASPHALT BLENDING STOCKS</b><br>Dark brown-to-black oily liquid; tar odor.   |  |
| <b>SYNONYMS</b>        | Liquid asphalt, asphaltum, fluxing oil, road oil, petroleum tailings, dust-laying oil, petroleum residue, road binder seal-coating material, residual asphalt petroleum pitch  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <p> <u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink plenty of water or milk.<br/> DO NOT INDUCE VOMITING. </p> <p>CALL FOR MEDICAL AID.</p> |   |

|                     |  |   |
|---------------------|--|---|
| CAS no.<br>513-77-9 | BARIUM CARBONATE<br>White, odorless, solid crystals or powder.   |  |
| SYNONYMS            |  |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | Non-flammable.<br>Highly toxic by ingestion.<br>Irritant to eyes, nose and throat.<br>TLV of barium compounds 0.5 mg/m <sup>3</sup> in air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. |   |
| EXPOSURE            | Solid<br>If swallowed, will cause nausea and vomiting.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID.  |   |

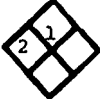
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|---------------------|---|---|
| CAS No.<br>542-62-1 | BARIUM CYANIDE<br>White crystalline powder. |  |
| SYNONYMS            |   |   |
| SAFETY<br>MEASURES  |   |   |
| HAZARDS             | Highly toxic by ingestion.<br>See cyanides. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.                       |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>100-52-7    | <p style="text-align: center;"><b>BENZALDEHYDE</b></p> <p>Colorless to yellow liquid; bitter almond odor.</p>  |  |
| <b>SYNONYMS</b>        | Oil of bitter almond, benzoic aldehyde.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | <p>Combustible when exposed to heat or flame.</p> <p>Moderately toxic by ingestion.</p> <p>Reacts as a feeble local anesthetic.</p> <p>Can cause convulsions in large doses.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>Harmful if swallowed.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>If in eyes, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p><br/>CALL FOR MEDICAL AID.</p> |   |



|                        |  |   |
|------------------------|--|---|
| CAS No.<br>71-43-2     | <b>BENZENE</b><br>Colorless, watery liquid; gasoline-like odor.  |  |
| <b>SYNONYMS</b>        | Benzol, bensole.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Flammable, dangerous fire hazard.<br/>Vapor may explode if ignited in an enclosed area.</p> <p>Breathing high concentrations may cause acute poisoning and death.<br/>Repeated inhalation of low concentrations often results in severe or fatal anemia.<br/>Poisoning occurs most commonly through inhalation of vapor although benzene can penetrate the skin.<br/>Skin and eye irritant.<br/>Is a carcinogen.</p> <p>TLV 25 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                    |  |   |
|--------------------|--|---|
| CAS No.<br>65-85-0 | <div style="text-align: center;"><b>BENZOIC ACID</b></div> White solid crystals or powder; faint pleasant odor   |  |
| SYNONYMS           | Phenylformic acid, benzenecarboxylic acid, carboxylbenzene.  |   |
| SAFETY MEASURES    | Avoid contact with solid and dust.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | Fire hazard slight when exposed to heat or flame.<br>Vapor may explode if ignited in an enclosed area.<br><br>May cause nausea and gastroenteric upset.<br>Possible allergic reactions.<br><br><br><br><br><br><br><br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.                             |   |
| EXPOSURE           | <u>Dust</u><br>Irritating to nose and throat if inhaled.<br>Move to fresh air.<br><br><u>Solid</u><br>Irritating to skin and eyes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID. |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>100-47-0 | BENZONITRILE<br>Transparent, colorless oil; almond-like odor.    |  |
| SYNONYMS            | Phenyl cyanide.  |   |
| SAFETY<br>MEASURES  |  |   |
| HAZARDS             | Flammable, moderate fire risk.<br>Highly toxic.<br>See cyanides. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.  |   |







|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7787-47-5 | <p style="text-align: center;"><b>BERYLLIUM CHLORIDE</b></p> Colorless deliquescent needles. |  |
| SYNONYMS             |  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Highly toxic by inhalation and ingestion.</p> <p>See beryllium compounds.</p>             |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |

|                 |  |   |
|-----------------|--|---|
| CAS No.         | BERYLLIUM COMPOUNDS  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Beryllium compounds can enter the body through inhalation of dust and fumes.<br/> May act locally on the skin.<br/> May have long-term affects.<br/> Toxic by inhalation.<br/> Skin irritant.</p> |   |
| EXPOSURE        | <p>CALL FOR MEDICAL AID.</p>   |   |







|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>13327-32-7 | BERYLLIUM HYDROXIDE<br>Amorphous powder or crystals.                  |  |
| SYNONYMS              |   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | Highly toxic by ingestion and inhalation.<br>See beryllium compounds. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>13597-99-4 | <p align="center"><b>BERYLLIUM NITRATE</b></p> White, yellowish crystals.   |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Oxidizing material.<br/> Dangerous fire risk.<br/> When heated to decomposition or in contact with acid or acid fumes, emits highly toxic fumes of oxides of nitrogen and beryllium.<br/> Can react vigorously with reducing materials.</p> <p>Highly toxic by inhalation.</p> <p>See beryllium and nitrate compounds.</p> |   |
| EXPOSURE              | <p align="center">CALL FOR MEDICAL AID.</p>   |   |



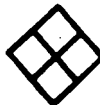



|                    |   |   |
|--------------------|---|---|
| CAS No.<br>80-05-7 | BISPHENOL A<br>White to brown solid flakes or powder;medicine odor.   |  |
| SYNONYMS           | 4,4'-isopropylidendiphenol, p,p'-Dihydroxydiphenyldimethyl methane.   |   |
| SAFETY MEASURES    | Avoid contact with solid and dust.  |   |
| HAZARDS            | Combustible.<br><br>May be toxic by ingestion.  |   |
| EXPOSURE           | <p><u>Dust</u><br/>Irritating to nose and throat if inhaled.<br/>Move to fresh air.</p> <p><u>Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Flush affected areas with plenty of water.<br/>If in eyes, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1303-96-4 | <div data-bbox="756 331 844 371">BORAX</div> <div data-bbox="546 382 1116 418">White-grayish, bluish or greenish white streak.</div> |  |
| SYNONYMS             | Tincal, tinkal, borax decahydrate.   |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | Noncombustible.<br><br>Low toxicity.<br><br>See boron compounds.   |   |
| EXPOSURE             |  |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1113-50-1 | <p style="text-align: center;"><b>BORIC ACID</b></p> <p>White crystals or powder.</p>     |  |
| SYNONYMS             | Boracic acid, o-boric acid, orthoboric acid.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Moderately toxic in large doses (5 grams for infants).</p> <p>See boron compounds.</p> |   |
| EXPOSURE             |   |   |



|                 |  |   |
|-----------------|--|---|
|                 | BORON COMPOUNDS  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Not highly toxic.<br/>Can be absorbed through wounds.</p> |   |
| EXPOSURE        |  |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7726-95-6 | <p style="text-align: center;"><b>BROMINE</b></p> Reddish-brown watery liquid; sharp irritating odor.   |  |
| SYNONYMS             |   |   |
| SAFETY<br>MEASURES   | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear self-contained breathing apparatus and rubber over-clothing (including gloves).</p>   |   |
| HAZARDS              | <p>Not flammable.<br/> Strong oxidizing agent.<br/> May ignite combustibles on contact.<br/> POISONOUS GASES PRODUCED IN FIRE.<br/> Will react with water or steam to produce toxic and corrosive fumes.<br/> Can react vigorously with reducing materials.</p> <p>Liquid and vapor highly toxic and severe skin irritant.<br/> The action of bromine is the same as that of chlorine, being an irritant to mucous membranes of eyes and upper respiratory tract.</p> <p>TLV 0.1 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause coughing, difficult breathing, or loss of consciousness.<br/> Move to fresh air.<br/> If breathing stopped, give artificial respiration (but NOT MOUTH-TO-MOUTH).<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>357-57-3 | BRUCINE<br>Monoclinic prisms.  |  |
| SYNONYMS            | Demethoxystrychnine.   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Dangerous; when heated it emits toxic fumes.<br/>An alkaloid like strychnine, but one-sixth as toxic.</p> <p>Highly toxic by ingestion or inhalation.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>106-97-8    | <p style="text-align: center;"><b>BUTANE</b></p> Liquified compressed gas; gasoline-like odor.   |  |
| <b>SYNONYMS</b>        | n-butane, methylethylmethane, butyl hydride.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode in an enclosed area.<br/>Reacts with oxidizing materials.<br/>When heated, emits acrid fumes.</p> <p>Produces drowsiness.<br/>Simple asphyxiant.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>If inhaled, will cause dizziness or difficult breathing.<br/>Not irritating to eyes, nose or throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |








|                        |   |   |
|------------------------|---|---|
| CAS No.<br>110-63-4    | 1,4-BUTANEDIOL<br>Colorless, odorless, thick liquid.  |  |
| <b>SYNONYMS</b>        | Butanedio, 1,4-butylene glycol, 1,4-dihydroxybutane, tetramethylene glycol.   |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | Combustible.<br>Can react with oxidizing materials.<br><br>Moderately toxic by ingestion.   |   |
| <b>EXPOSURE</b>        | <u>Liquid or Solid</u><br>Irritating to the skin and eyes.<br>Harmful if swallowed.<br>Flush affected areas with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>29733-86-6 | 1,4-BUTENEDIOL  |  |
| SYNONYMS              | 2-butene-1,3-diol, 1,4-dihydroxy-2 butene   |   |
| SAFETY MEASURES       | Avoid contact with liquid.  |   |
| HAZARDS               | Combustible.<br>Can react with oxidizing materials.<br>Primary skin irritant.   |   |
| EXPOSURE              | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |





|                 |   |   |
|-----------------|---|---|
| CAS No.         | BUTYL ALCOHOL   |  |
| SYNONYMS        | Butanol, butyric alcohol, n-butanol, trimethylcarbinol, hydroxybutane, n-propylcarbinol, methylethylcarbinol, n-butyl alcohol.  |   |
| SAFETY MEASURES | Avoid contact with liquid or vapor.<br>Wear full-protective clothing and canister type mask.<br>Stay upwind.  |   |
| HAZARDS         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>When heated to decomposition, emits toxic fumes.<br/>Can react with oxidizing materials.</p> <p>Moderately toxic by ingestion, inhalation and skin absorption.<br/>Irritating to eyes and skin.</p> <p>TLV 100 ppm in air.</p> <p>*****</p> <p>*****</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, headache and dizziness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>*****</p> <p>*****</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>78-92-2     | <p style="text-align: center;"><b>SEC-BUTYL ALCOHOL</b></p> Colorless, watery liquid; alcohol odor.   |  |
| <b>SYNONYMS</b>        | 2-Butanol, 2-Hydroxybutane, Methyl ethyl carbinol.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Can react with oxidizing materials.   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause headache, dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>75-65-0 | TERT-BUTYL ALCOHOL<br>Colorless, oily liquid; sharp alcohol odor.   |  |
| SYNONYMS           | 2-methyl-2-propanol, trimethyl carbinol.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS            | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode in an enclosed area.<br>Can react with oxidizing materials.<br><br>TLV 100 ppm.  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>123-86-4 | N-BUTYL ACETATE<br>Colorless watery liquid; pleasant fruity odor.  |  |
| SYNONYMS            | Acetic acid n-butyl ester, Butyl acetate, butyl ethanoate  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| HAZARDS             | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Can react with oxidizing materials.<br><br>High concentrations are irritating to eyes and respiratory tract.<br>High concentrations cause narcosis.<br><br>TLV 220 ppm.  |   |
| EXPOSURE            | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause nausea, dizziness, headache or difficult breathing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |


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|---------------------|--|---|
| CAS No.<br>105-46-4 | <div data-bbox="670 305 924 340" data-label="Section-Header"> <p>SEC-BUTYL ACETATE</p> </div> <div data-bbox="527 358 1092 391" data-label="Text"> <p>Colorless watery liquid; pleasant fruity odor.</p> </div>  |  |
| SYNONYMS            | Acetic acid sec-butyl ester, 2-butanol acetate.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Can react with oxidizing materials.<br/>Moderate explosion hazard when exposed to flame.</p> <p>Mild irritant.<br/>Acute ingestive hazard.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, headache or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
| CAS No.<br>141-32-2    | <b>N-BUTYL ACRYLATE</b><br>Colorless, watery liquid; sharp fragrant odor.  |  |
| <b>SYNONYMS</b>        | Butyl acrylate, n-Butyl-2-propenoate, acrylic acid n-butyl ester.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.<br>Containers may explode in fire.<br>Can react with oxidizing materials.   |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |


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|--------------------|---|---|
| CAS No.<br>75-91-2 | TERT-BUTYL HYDROPEROXIDE<br>Odorless, colorless, watery liquid.   |  |
| SYNONYMS           | Cadox TBH   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS            | <p>Highly flammable liquid.<br/>Vapor may explode if ignited in an enclosed area.<br/>Spontaneous chemical reaction and/or explosion may occur if mixed with readily oxidizable, organic or flammable materials.<br/>Flashback along vapor trail may occur.<br/>Can react with reducing materials.</p> <p>Moderately toxic.<br/>Skin sensitizer.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>109-73-9    | <p style="text-align: center;"><b>BUTYLAMINE</b></p> Liquid; ammonia-like odor.   |  |
| <b>SYNONYMS</b>        | 1-Aminobutane, n-Butylamine   |   |
| <b>SAFETY MEASURES</b> | Wear goggles and self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Flammable liquid.<br/> Vapor forms explosive mixtures with air.<br/> Can react with oxidizing materials.</p> <p>Moderately toxic.<br/> Eye, skin and respiratory tract irritant.</p> <p>TLV 5 ppm.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>  |   |




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|------------------------|--|---|
| CAS No.<br>25167-67-3  | <p style="text-align: center;"><b>BUTYLENE</b></p> Liquefied compressed gas; gasoline-like odor.   |  |
| <b>SYNONYMS</b>        | Transbutane-2, isobutane, butene-1, cis-butene-2.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | Highly flammable.<br>Vapor may explode if ignited in enclosed area.<br>Can react with oxidizing materials.<br><br>Caution - an anesthetic or asphyxiant.   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/> If inhaled, will cause dizziness and difficult breathing.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will cause frostbite.<br/> Flush affected areas with plenty of water.<br/> DO NOT RUB AFFECTED AREAS.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS No.<br>110-65-6 | 1,4-BUTYNE-1,4-DIOL<br>White-yellow crystals; brownish watery solution.   |  |
| SYNONYMS            | 2-Butyne-1,4-diol, 1,4-dihydroxy-2-butyne.  |   |
| SAFETY MEASURES     | Avoid contact with liquid or solid.   |   |
| HAZARDS             | <p>Combustible.<br/>           Dangerous when heated to decomposition; it emits acrid fumes and may explode.<br/>           May explode on contamination with mercury salts, strong acids and alkali earth hydroxides and halides at high temperatures.</p> <p>Highly toxic.<br/>           Strong irritant.</p>  |   |
| EXPOSURE            | <p><u>Liquid or Solid</u><br/>           Irritating to skin and eyes.<br/>           Harmful if swallowed.<br/>           Remove contaminated clothing and shoes.<br/>           Flush affected areas with plenty of water.<br/>           IF IN EYES, hold eyelids open and flush with plenty of water.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>123-72-3    | <p align="center"><b>BUTYRALDEHYDE</b></p> <p>Colorless, watery liquid; pungent odor.</p>   |  |
| <b>SYNONYMS</b>        | Butaldehyde, butyric aldehyde, butanal, butylaldehyde.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/>Wear goggles and self-contained breathing apparatus and protective clothing.<br/>Stay upwind.</p>   |   |
| <b>HAZARDS</b>         | <p>Extremely flammable liquid.<br/>Flashback along vapor trail may occur.<br/>Vapors may explode if ignited in an enclosed area.</p> <p>Moderately toxic.<br/>May produce skin and eye burns.<br/>Slightly toxic by inhalation.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting headache, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin.<br/>Will burn eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p align="center">CALL FOR MEDICAL AID.</p> |   |

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|------------------------|---|---|
| CAS No.<br>107-92-6    | <p align="center"><b>BUTYRIC ACID</b></p> <p>Liquid.</p>  |  |
| <b>SYNONYMS</b>        | Butanoic acid, ethylacetic acid, propylformic acid.   |   |
| <b>SAFETY MEASURES</b> | Wear goggles and self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>Vapor forms explosive mixture with air.<br/>Can react with oxidizing materials.</p> <p>Toxic.<br/>Eye, skin and respiratory tract irritant.</p> |   |
| <b>EXPOSURE</b>        | <p align="center">CALL FOR MEDICAL AID.</p>   |   |





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|---------------------|---|---|
| CAS No.<br>543-90-8 | <p style="text-align: center;"><b>CADMIUM ACETATE</b></p> <p>Colorless crystals; odor of acetic acid.</p> |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | <p>Highly toxic.</p> <p>See cadmium compounds.</p>  |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>  |   |


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|----------------------|---|---|
| CAS No.<br>7789-42-6 | CADMIUM BROMIDE<br>Yellow crystals.                           |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Highly toxic.<br>See cadmium compounds and bromide compounds. |   |
| EXPOSURE             | CALL FOR MEDICAL AID.   |   |


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|-----------------------|---|---|
| CAS No.<br>10108-64-2 | CADMIUM CHLORIDE<br>Odorless, hexagonal, colorless crystals.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Non-flammable.<br/>           Dangerous when in contact with organic materials.<br/>           Moderate fire hazard by chemical reaction with reducing agents.<br/>           Powerful oxidizing agent.<br/>           Explosion hazard moderate when shocked or exposed to heat.<br/>           When heated to decomposition it emits highly toxic fumes of cadmium, chlorine and chlorides.</p> <p>Highly toxic.</p> <p>See cadmium and chloride compounds.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE              | <p><u>Solid</u><br/>           Harmful if swallowed.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>           IF SWALLOWED and victim is UNCONSCIOUS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p>  |   |



|                 |   |   |
|-----------------|---|---|
|                 | CADMIUM COMPOUNDS   |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Oral toxicity of cadmium compounds is high.<br/> The inhalation of fumes or dusts of cadmium primarily affects the respiratory tract.<br/> Brief exposure may result in pulmonary edema and death.<br/> Are suspected carcinogens.</p> |   |
| EXPOSURE        |   |   |


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|-----------------------|--------------------------------------|---|
| CAS No.<br>14486-19-2 | CADMIUM FLUOBORATE                   |  |
| SYNONYMS              |                                      |   |
| SAFETY MEASURES       |                                      |   |
| HAZARDS               | See cadmium compounds and fluorides. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.                |   |


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|-----------------------|---|---|
| CAS No.<br>10325-94-7 | CADMIUM NITRATE<br>White prismatic needles.           |  |
| SYNONYMS              |   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | Dangerous fire and explosion hazard.<br>Highly toxic. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.                                 |   |

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|-----------------------|--|---|
| CAS No.<br>10124-36-4 | <p style="text-align: center;">CADMIUM SULFATE</p> Rhombic white crystals. |  |
| SYNONYMS              |  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>Highly toxic.</p> <p>See cadmium compounds and sulfates.</p>            |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |






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|--------------------|---|---|
| CAS No.<br>75-20-7 | <p style="text-align: center;"><b>CALCIUM CARBIDE</b></p> Gray-to-bluish black granules; garlic odor.   |  |
| SYNONYMS           | Carbide, acetylenogen.  |   |
| SAFETY MEASURES    | Avoid contact with solid and gas.   |   |
| HAZARDS            | <p>Not flammable in dry state.<br/> FLAMMABLE, EXPLOSIVE ACETYLENE GAS PRODUCED ON CONTACT WITH WATER.<br/> When decomposed in water it forms acetylene and calcium hydroxide.<br/> DO NOT USE WATER OR FOAM ON ADJACENT FIRES.</p> <p>Irritant to eyes and can cause skin burns.</p> <p>See acetylene and calcium hydroxide.</p> |   |
| EXPOSURE           | <p><u>Solid</u><br/> Irritating to skin and eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

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|-----------------------|--|---|
| CAS No.<br>13765-19-0 | CALCIUM CHROMATE<br>Yellow prisms.   |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Carcinogen.<br/>Highly toxic.<br/>Strong irritant to skin.</p> <p>See chromium compounds.</p> <p>TLV 0.1 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |







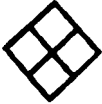
|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7789-75-5 | <p style="text-align: center;"><b>CALCIUM FLUORIDE</b></p> Odorless, gray powder or granules.  |  |
| SYNONYMS             | Fluospar.  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Non-flammable.<br/> Will react with concentrated sulfuric acid to produce hydrofluoric acid.</p> <p>Highly toxic, and irritant.</p> <p>See fluorides.</p> <p>TLV 2.5 mg/m<sup>3</sup> in air.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p> |   |
| EXPOSURE             | <p>Solid<br/> Harmful if swallowed.<br/> Not irritating to skin or eyes.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p><b>CALL FOR MEDICAL AID.</b></p>   |   |







|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1305-78-8 | <p align="center"><b>CALCIUM OXIDE</b></p> <p>Odorless, white granules.</p>   |  |
| SYNONYMS             | Unslaked lime, quick-lime, burnt lime, Calx.  |   |
| SAFETY MEASURES      | <p>Avoid contact with solid.<br/>Wear rubber overclothing, including gloves.</p>  |   |
| HAZARDS              | <p>Not combustible.<br/>May cause fire on contact with water and combustibles.</p> <p>Caustic irritant to eyes, and respiratory tract.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p><br><p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Dust</u><br/>Irritating to nose and throat.<br/>Move to fresh air.</p> <p><u>Solid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p><br><p>CALL FOR MEDICAL AID.</p> |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>79-92-5     | <p style="text-align: center;"><b>CAMPHENE</b></p> <p>Cubic crystals</p> |  |
| <b>SYNONYMS</b>        | 3,3-Dimethyl-2-methylene norcamphone.                                    |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | Yields flammable vapors when heated.<br>Reacts with oxidizing materials. |   |
| <b>EXPOSURE</b>        | CALL FOR MEDICAL AID.  |   |


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|------------------------|---|---|
|                        | <p style="text-align: center;"><b>CAMPHOR OIL</b></p> <p>Colorless, brown or blue oily liquid; camphor odor.</p>  |  |
| <b>SYNONYMS</b>        | Liquid camphor.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/> Can react with oxidizing materials.<br/> Moderately explosive in form of vapor when exposed to heat or flame.</p> <p>Moderately toxic.<br/> A local irritant.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> If swallowed, will cause nausea, vomiting, or loss of consciousness.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|--|---|
| CAS No.<br>133-06-2 | CAPTAN   |  |
| SYNONYMS            | n-trichloromethylthiotetrahydrophthalimide   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>When heated to decomposition, emits highly toxic fumes of chlorides.</p> <p>Toxic and irritant.</p> <p>See chlorides.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |





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|--------------------|---|---|
| CAS No.<br>63-25-2 | CARBARYL<br>White-to-gray powder or solution; weak odor.  |  |
| SYNONYMS           | Sevin, 1-naphthyl-n-methylcarbamate.  |   |
| SAFETY MEASURES    | Avoid contact with solid and solution.  |   |
| HAZARDS            | <p>Solid not flammable, but usually dissolved in combustible liquid.</p> <p>Toxic by ingestion, inhalation, and skin absorption. Irritant.</p> <p>See parathion.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Solid or Solution</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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|------------------------|---|---|
| CAS No.<br>75-15-0     | <p style="text-align: center;"><b>CARBON BISULFIDE</b></p> <p>Colorless-to-yellow watery liquid;rotten egg odor.</p>  |  |
| <b>SYNONYMS</b>        | Carbon Disulfide.   |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>   |   |
| <b>HAZARDS</b>         | <p>Flammable liquid that gives off flammable vapors even at low temperatures which will form explosive mixtures in air over a wide range.<br/>Can react vigorously with oxidizing material.</p> <p>Anesthetic action is much more powerful than chloroform.<br/>Toxic by oral intake or prolonged contact with skin.<br/>Acts on central nervous system as narcotic or anesthetic in acute poisoning.<br/>Death is caused by respiratory failure.</p> <p>TLV 2.0 ppm in air (by skin absorption).</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                    |  |   |
|--------------------|--|---|
| CAS No.<br>56-23-5 | <p style="text-align: center;"><b>CARBON TETRACHLORIDE</b></p> <p>Colorless, watery liquid; sweet odor.</p>  |  |
| SYNONYMS           | Carbon Tet, tetrachloromethane.  |   |
| SAFETY MEASURES    | <p>Avoid contact with liquid and vapor.<br/>Wear goggles and self-contained breathing apparatus.<br/>Stay upwind.</p>  |   |
| HAZARDS            | <p>Nonflammable liquid.<br/>POISONOUS AND IRRITATING GASES OF PHOSGENE ARE PRODUCED WHEN HEATED.</p> <p>Carbon tetrachloride has a narcotic action resembling that of chloroform but not as strong.<br/>Eye and skin irritant.<br/>Highly toxic by ingestion, inhalation, and skin absorption.</p> <p>See phosgene.</p> <p>TLV 10 ppm in air.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                        |   |   |
|------------------------|---|---|
| CAS No.<br>120-80-9    | <p style="text-align: center;"><b>CATECHOL</b></p> Colorless crystals.  |  |
| <b>SYNONYMS</b>        | Pyrocatechol, 1,2-benzendiol, pyrocatechin, o-dihydroxybenzene  |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Fire hazard slight when exposed to heat.<br/> Dangerous - when heated it emits highly toxic fumes.<br/> Can react with oxidizing materials.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/> Strong irritant.<br/> Can cause convulsions and injury to blood.</p> <p>See also phenol.</p> |   |
| <b>EXPOSURE</b>        |   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>12789-03-6 | <div data-bbox="733 301 863 336" data-label="Section-Header"> <p>CHLORDANE</p> </div> <div data-bbox="536 355 1075 386" data-label="Text"> <p>Colorless-to-amber; odorless, viscous liquid.</p> </div>  |  |
| SYNONYMS              | Chloradanooctachlorotetrahydromethano indane, "Octa-klor", "1068", "Velsicol 1068", "Dowklor", "Ortho-Klor" and other trade names.  |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>When heated to decomposition emits highly toxic fumes of chlorides.</p> <p>Extremely poisonous by ingestion and skin absorption. On contact with skin can cause death. Ingestion of 2-4 grams can cause death.</p> <p>TLV 0.5 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE              |   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7782-50-5 | CHLORINE  |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.  |   |
| HAZARDS              | Noncombustible in air but most combustible materials will burn in chlorine as they do in oxygen.<br>Flammable gases and vapors will form explosive mixtures with chlorine.<br>Reacts explosively or forms explosive compounds with many common chemicals such as: turpentine, ethers, ammonia gas, hydrogen, hydrocarbons, powdered metals.<br>POISONOUS GASES ARE PRODUCED IN FIRE.<br>Extremely strong oxidizing agent.<br>It combines with moisture to liberate nascent oxygen and forms hydrochloric acid.<br><br>Toxic gas.<br>Liquid chlorine will cause serious skin burns.<br>Extremely irritating to the eyes and respiratory tract.<br><br>TLV 0.1 ppm                      1000 ppm fatal<br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. |   |
| EXPOSURE             | <u>Vapor</u><br>Poisonous if inhaled.<br>Will burn eyes.<br>If breathing has stopped, give artificial respiration (but NOT MOUTH-TO-MOUTH).<br>If breathing is difficult, give oxygen.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Will cause frostbite.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>DO NOT RUB AFFECTED AREAS.<br><br><br>CALL FOR MEDICAL AID.   |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>108-90-7 | CHLOROBENZENE<br>Clear colorless liquid.   |  |
| SYNONYMS            | Phenyl chloride, monochlorobenzene, chlorobenzol.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS             | <p>Flammable liquid.<br/>May explode if ignited in an enclosed area.<br/>Flashback along vapor trail may occur.<br/>Reacts vigorously with oxidizing materials.<br/>POISONOUS GASES ARE PRODUCED IN FIRE.<br/>Explodes when exposed to heat or flame.</p> <p>Toxic by inhalation, skin contact, or ingestion.<br/>An eye irritant.<br/>Strong narcotic.</p> <p>3700 ppm fatal.</p> <p>TLV 75 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>If inhaled will cause coughing or dizziness.<br/>Not irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                    |  |   |
|--------------------|--|---|
| CAS No.<br>67-66-3 | CHLOROFORM<br>Colorless, watery liquid; sweet odor.  |  |
| SYNONYMS           | Trichloromethane.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | Non-flammable.<br>POISONOUS AND IRRITATING GASES OF PHOSGENE ARE PRODUCED WHEN HEATED.<br>Will cause narcosis and heart damage.<br>TLV 50 ppm.   |   |
| EXPOSURE           | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause headache, nausea, dizziness, or loss of consciousness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>96-24-2 | CHLOROHYDRINS   |  |
| SYNONYMS           | Crude epichlorohydrin, 1-chloropropane-2,3-diol, glyceryl-alpha-chlorohydrin.   |   |
| SAFETY MEASURES    | <p>Avoid contact with liquid and vapor.<br/> Wear goggles and self-contained breathing apparatus.<br/> Stay upwind.</p>   |   |
| HAZARDS            | <p>Combustible.<br/> Containers may explode in fire.<br/> Poisonous gases are produced in fire.</p> <p>Toxic if inhaled or ingested.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/> Poisonous if inhaled.<br/> Irritating to eyes, nose and throat.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Poisonous if swallowed.<br/> Irritating to skin and eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7790-94-5 | CHLOROSULFONIC ACID<br>Colorless to light yellow liquid; choking odor.   |  |
| SYNONYMS             | Sulfuric chlorohydrin, chlorsulfonic acid.   |   |
| SAFETY MEASURES      | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| HAZARDS              | <p>Non-flammable.<br/>Dangerously reactive in the presence of moisture or water.<br/>May cause ignition by contact with combustible materials.<br/>Corrosive to most metals, with evolution of hydrogen gas which is flammable or explosive.<br/>Will react with water and organic materials with evolution of heat.<br/>Explosive reaction with water, liberating hydrochloric and sulfuric acids.</p> <p>Produces severe acid burns.<br/>Highly toxic.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>11115-74-5  | <p style="text-align: center;"><b>CHROMIC ACID</b></p> Odorless, dark red flakes or powder.   |  |
| <b>SYNONYMS</b>        | Chromic anhydride, chromium trioxide, chromic oxide.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with solid and dust.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | Non-flammable.<br>Containers may explode when heated in a fire.<br>Powerful oxidizing material.<br>May react with organic material rapidly enough to generate sufficient heat for ignition.<br>Contact with powerful reducing agents can cause violent reactions.<br>Will ignite on contact with acetic acid and alcohols.<br><br>Solid or concentrated solutions destroy tissue.<br>Contact with eyes may result in loss of sight.<br><br>TLV 0.1 mg/m <sup>3</sup> of air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. |   |
| <b>EXPOSURE</b>        | Solid<br>Will burn eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID.   |   |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>1066-30-4   | <p style="text-align: center;"><b>CHROMIC ACETATE</b></p> Gray-green powder or bluish-green pasty mass. |  |
| <b>SYNONYMS</b>        |   |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Toxic by ingestion.</p> <p>See chromium compounds.</p>   |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>  |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10101-53-8 | CHROMIC SULFATE<br>Violet or red powder.  |  |
| SYNONYMS              | Chromium sulfate.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | Probably toxic by ingestion.<br>Carcinogenic.<br><br>See chromium compounds and sulfates. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.   |   |


|                 |   |   |
|-----------------|---|---|
|                 | CHROMIUM COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Chromic acid and its salts have a corrosive action on the skin and mucous membranes.</p> <p>Chromate salts are recognized carcinogens.</p> <p>Hexavalent compounds are said to be more toxic than the trivalent.</p> |   |
| EXPOSURE        |   |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>13734-50-4 | CHROMOUS CARBONATE   |  |
| SYNONYMS              | Chromium carbonate.  |   |
| SAFETY MEASURES       | Avoid contact with dust and solid.   |   |
| HAZARDS               | <p>Toxic by ingestion.<br/>Irritant to skin and tissues.</p> <p>See chromium compounds..</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |









|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>14977-61-8 | <p style="text-align: center;"><b>CHROMYL CHLORIDE</b></p> Dark red liquid; musty burning odor.  |  |
| SYNONYMS              | Chromium oxychloride, chlorochromic anhydride.   |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>Hydrolizes to form chromic and hydrochloric acids.</p> <p>A strong irritant.<br/>Carcinogenic.</p> <p>See chlorides and chromium compounds.</p> |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>   |   |

|                 |   |   |
|-----------------|---|---|
| CAS No.         | COBALT COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Experimental evidence shows the toxicity of cobalt by ingestion is low.<br/> May cause skin irritation.<br/> They are suspected carcinogens.</p> |   |
| EXPOSURE        |   |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>71-43-7 | COBALTOUS ACETATE<br>Red-violet crystals. |  |
| SYNONYMS           | Cobalt acetate.                           |   |
| SAFETY<br>MEASURES |   |   |
| HAZARDS            | Toxicity low.<br>See cobalt compounds.    |   |
| EXPOSURE           |   |   |





|                     |   |   |
|---------------------|---|---|
| CAS No.<br>866-81-9 | COBALTOUS CITRATE<br>Rose-red crystals. |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | See cobalt compounds.                   |   |
| EXPOSURE            |   |   |




|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10026-17-2 | COBALTOUS FLUORIDE<br>Rose-red crystals.   |  |
| SYNONYMS              | Cobalt fluoride.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Highly toxic and irritant.</p> <p>See cobalt compounds and fluorides.</p> <p>TLV 2.5 mg/m of air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |













|                      |                       |   |
|----------------------|-----------------------|---|
| CAS No.<br>3267-76-3 | COBALTOUS SUCCINATE   |  |
| SYNONYMS             | Cobalt succinate.     |   |
| SAFETY MEASURES      |                       |   |
| HAZARDS              | See cobalt compounds. |   |
| EXPOSURE             |                       |   |


|                       |                                      |   |
|-----------------------|--------------------------------------|---|
| CAS No.<br>14017-41-5 | COBALTOUS SULFAMATE                  |  |
| SYNONYMS              | Cobalt sulfamate.                    |   |
| SAFETY<br>MEASURES    |                                      |   |
| HAZARDS               | See cobalt compounds.                |   |
| EXPOSURE              | <p></p> <p>CALL FOR MEDICAL AID.</p> |   |

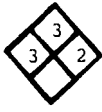
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| CAS No.<br>10124-43-3 | COBALTOUS SULFATE<br>Red, water-soluble crystals. |  |
| SYNONYMS              | Cobalt sulfate.                                   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | See cobalt compounds and sulfates.                |   |
| EXPOSURE              |   |   |





|                 |  |   |
|-----------------|--|---|
|                 | COPPER COMPOUNDS   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Copper chloride and sulfate have been reported as causing irritation of the skin and conjunctiva.</p> <p>Cuprous oxide is irritating to the eyes and upper respiratory tract.</p> <p>The ingestion of a large quantity of copper sulfate has caused vomiting, gastric pain, dizziness, exhaustion, anemia, cramps, convulsions, coma and death.</p> <p>Deaths have been reported after ingestion of as little as 27 g of the salts, while other victims have recovered after doses up to 120 g.</p> |   |
| EXPOSURE        |  |   |

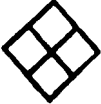
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|--------------------|---------------------------|---|
| CAS No.<br>56-72-4 | COUMAPHOS                 |  |
| SYNONYMS           | Co-ral                    |   |
| SAFETY<br>MEASURES |                           |   |
| HAZARDS            | Highly toxic insecticide. |   |
| EXPOSURE           | CALL FOR MEDICAL AID.     |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1319-77-3 | CRESOLS<br>Colorless or yellow liquid or crystals; tarry odor.  |  |
| SYNONYMS             | 2-methoxy-4-methyl phenol, 4-methyl guaiacol, 2-methoxy-p-cresol<br>cresylic acids, hydroxytoluenes, methylphenols, oxytoluenes.  |   |
| SAFETY<br>MEASURES   | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber<br>overclothing (including gloves).   |   |
| HAZARDS              | <p>Flammable.<br/>Vapors form explosive mixtures with air.<br/>POISONOUS GASES MAY BE PRODUCED IN FIRE.</p> <p>Corrosive to body tissue.<br/>Toxic by inhalation, ingestion and skin absorption.<br/>Production of severe burns and dermatitis.</p> <p>TLV 5 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p>Liquid<br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water<br/>or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                      |   |   |
|----------------------|---|---|
| CAS No.<br>4170-30-3 | CROTONALDEHYDE  |  |
| SYNONYMS             | 2-butenal, crotonic aldehyde, $\beta$ -methylacrolein.  |   |
| SAFETY MEASURES      | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.  |   |
| HAZARDS              | Highly flammable liquid.<br>Vapor may explode if ignited in an enclosed area.<br><br>Extreme eye, respiratory tract and skin irritant.<br>Very dangerous to eyes; can cause corneal damage.<br>Regard as an acute irritant on very short exposure to small quantities.<br><br>TLV 2 ppm.  |   |
| EXPOSURE             | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause coughing, nausea, or loss of consciousness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>93-82-3 | <p style="text-align: center;"><b>CUMENE</b></p> <p>Colorless, watery liquid; gasoline-like odor.</p>   |  |
| SYNONYMS           | Cumol, isopropylbenzene, 2-phenylpropane.   |   |
| SAFETY MEASURES    | Avoid contact with liquid.  |   |
| HAZARDS            | <p>Flammable.<br/>Can react with oxidizing agents.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/>Narcotic in high concentrations.</p> <p>TLV 50 ppm.</p>   |   |
| EXPOSURE           | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>142-71-2 | CUPRIC ACETATE<br>Greenish-blue fine powder or crystals. |  |
| SYNONYMS            | Copper acetate, verdigris.                               |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | Moderately toxic.  |   |
| EXPOSURE            | CALL FOR MEDICAL AID.                                    |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>12002-93-8 | CUPRIC ACETOARSENITE<br>Emerald green powder.  |  |
| SYNONYMS              | Copper acetoarsenite, copper acetate arsenite, Paris green, emerald green, imperial, king's green, moss green, Vienna green. |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | Highly toxic by ingestion.<br>See copper compounds and arsenic compounds.  |   |
| EXPOSURE              | CALL FOR MEDICAL AID.  |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>13395-16-9 | CUPRIC ACETYLACETONATE                 |  |
| SYNONYMS              | Scheel's green, copper-2,4-pentadione. |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | See copper compounds.                  |   |
| EXPOSURE              |  |   |




|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7739-45-9 | CUPRIC BROMIDE<br>Black, deliquescent crystals. |  |
| SYNONYMS             | Copper bromide.                                 |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | See copper compounds, bromides.                 |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                           |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7447-39-4 | CUPRIC CHLORIDE<br>Yellowish-brown powder.               |  |
| SYNONYMS             | Copper chloride.   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Moderately toxic.<br>See copper compounds and chlorides. |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                                    |   |

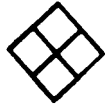


|                     |                   |   |
|---------------------|-------------------|---|
| CAS No.<br>527-09-3 | CUPRIC GLUCONATE  |  |
| SYNONYMS            | Copper gluconate. |   |
| SAFETY MEASURES     |                   |   |
| HAZARDS             | Low toxicity.     |   |
| EXPOSURE            |                   |   |

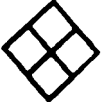
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| CAS No.<br>13479-54-4 | CUPRIC GLYCINATE                       |  |
| SYNONYMS              | Copper glycinate, cupric aminoacetate. |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | See copper compounds.                  |   |
| EXPOSURE              | <p></p> <p>CALL FOR MEDICAL AID.</p>   |   |





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>3251-23-8 | CUPRIC NITRATE<br>Blue, deliquescent crystals.   |  |
| SYNONYMS             | Copper nitrate.  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Increases flammability of any combustible substance.<br/> Oxidizing material.<br/> In contact with organic materials it may cause violent combustion or explosion.<br/> When heated to decomposition it emits highly toxic fumes of nitrogen oxide.</p> <p>Moderately toxic.</p> <p>See nitrogen oxides.<br/> See copper compounds and nitrate.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


|                     |   |   |
|---------------------|---|---|
| CAS No.<br>814-91-5 | CUPRIC OXALATE<br>Solid; light bluish-green powder. |  |
| SYNONYMS            | Copper oxalate.                                     |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | See copper compounds and oxalates.                  |   |
| EXPOSURE            | CALL FOR MEDICAL AID.                               |   |



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|-----------------------|---|---|
| CAS No.<br>52503-64-7 | CUPRIC SUBACETATE<br><br>Solid.                     |  |
| SYNONYMS              | Copper acetate basic, copper subacetate, verdigris. |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | Moderately toxic.<br>See copper compounds.          |   |
| EXPOSURE              | CALL FOR MEDICAL AID.                               |   |


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|----------------------|--|---|
| CAS No.<br>7758-98-7 | CUPRIC SULFATE<br>Odorless, white-to-blue granules or crystals.  |  |
| SYNONYMS             | Copper sulfate, blue vitriol, sulfate of copper, copper sulfate pentahydrate, blue stone, roman vitriol.   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Non-flammable.<br/>Hydrolyzes in water to form sulfuric acid.<br/>Highly toxic by ingestion.<br/>See copper compounds and sulfates.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Solid</u><br/>If swallowed, will cause nausea, vomiting or loss of consciousness.<br/>IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|-----------------|---|---|
|                 | <p>CUPRIC SULFATE, AMMONIATED</p> <p>Dark blue crystals.</p>                        |  |
| SYNONYMS        | Ammoniated copper sulfate, ammoniated ammino-cupric sulfate, copper aminosulfate.   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Highly toxic by ingestion.</p> <p>See copper compounds, ammonia and sulfate.</p> |   |
| EXPOSURE        | <p>CALL FOR MEDICAL AID.</p>  |   |

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|---------------------|-----------------------|---|
| CAS No.<br>315-82-7 | CUPRIC TARTRATE       |  |
| SYNONYMS            | Copper tartrate.      |   |
| SAFETY MEASURES     |                       |   |
| HAZARDS             | See copper compounds. |   |
| EXPOSURE            | CALL FOR MEDICAL AID. |   |








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| CAS No.         | CYANIDES   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Cyanides inhibit tissue oxidation and cause death through asphyxia.<br/> Cyanogen is probably as toxic as hydrocyanic acid.<br/> The nitriles are somewhat less toxic.<br/> The non-volatile cyanide salts appear to be relatively nontoxic systemically, as long as they are not ingested and the formation of hydrocyanic acid is prevented.<br/> Many cyanides evolve flammable and highly toxic hydrocyanic acid.<br/> Carbon dioxide from the air is sufficiently acidic to liberate hydrocyanic acid from cyanide solutions.<br/> On contact with acid, acid fumes, water or steam, they will produce toxic and flammable vapors of hydrogen cyanide.</p> |   |
| EXPOSURE        |  |   |

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|---------------------|--|---|
| CAS No.<br>506-68-3 | CYANOGEN BROMIDE<br>Colorless crystals; penetrating odor.  |  |
| SYNONYMS            | Bromine cyanide.   |   |
| SAFETY MEASURES     | AVOID CONTACT WITH SOLID AND DUST.<br>Wear chemical protective suit with self-contained breathing apparatus.   |   |
| HAZARDS             | <p>Non-flammable.<br/>POISONOUS GASES ARE PRODUCED WHEN HEATED.</p> <p>Highly toxic.<br/>Strong irritant to skin and eyes.</p> <p>See cyanides and bromides.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE            | <p>Dust<br/>POISONOUS IF INHALED OR IF SKIN EXPOSED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p>Solids<br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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| CAS No.<br>506-77-4 | CYANOGEN CHLORIDE<br>Colorless liquid or compressed gas; pungent odor.   |  |
| SYNONYMS            | Chlorine cyanide.  |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear chemical-protective suit with self-contained breathing apparatus.<br/>Stay upwind.</p>  |   |
| HAZARDS             | <p>Non-flammable.<br/>POISONOUS GASES ARE PRODUCED WHEN HEATED IN FIRE.<br/>Highly dangerous when in contact with water or steam it will react to produce highly toxic and corrosive fumes.</p> <p>Highly toxic by ingestion, inhalation.<br/>Strong irritant to skin and eyes.<br/>Vapors highly irritant.</p> <p>See cyanides and hydrochloric acid.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|-----------------------|--|---|
| CAS No.<br>29386-66-1 | <p style="text-align: center;">CYANOPYRIDINE</p> Gray crystals.  |  |
| SYNONYMS              | 3-cyanopyridine, 4-cyanopyridine.  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Slightly flammable when exposed to heat or flame.<br/> Dangerous when heated to decomposition.<br/> Emits toxic fumes on contact with acid.<br/> Acid fumes, water or steam will react to produce toxic and flammable cyanide vapors.<br/> Can react with oxidizing materials.</p> <p>Probably highly toxic.</p> <p>See cyanides.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |


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|---------------------|--|---|
| CAS No.<br>110-82-7 | <p style="text-align: center;"><b>CYCLOHEXANE</b></p> Colorless, watery liquid; gasoline-like odor.  |  |
| SYNONYMS            | Hexahydroxybenzene, hexamethylene.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Eye and respiratory protection recommended.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable when exposed to heat or flame.<br/> Flashback along vapor trail may occur.<br/> Vapor may explode if ignited in an enclosed area.<br/> Can react vigorously with oxidizing materials.</p> <p>Can cause skin irritation.<br/> May act as simple asphyxiant.</p> <p>TLV 300 ppm in air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause dizziness, nausea, vomiting and loss of consciousness.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |



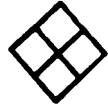
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| CAS No.<br>108-94-1 | <p style="text-align: center;"><b>CYCLOHEXANONE</b></p> <p>Colorless-to-yellow oily liquid; peppermint odor.</p>  |  |
| SYNONYMS            | Cyclohexyl ketone.  |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>  |   |
| HAZARDS             | <p>Combustible.<br/>Can react with oxidizing materials.<br/>Slightly explosive when exposed to flame.<br/>Irritant to eyes, skin and mucous membranes.</p> <p>Narcotic.<br/>Mildly toxic if inhaled or ingested.</p> <p>TLV 50 ppm.</p>   |   |
| EXPOSURE            | <p>Liquid<br/>Will burn eyes and skin.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|--|---|
| CAS No.<br>108-91-8 | <p style="text-align: center;"><b>CYCLOHEXYLAMINE</b></p> Colorless liquid; strong fishy odor.   |  |
| SYNONYMS            | Aminocyclohexane, hexahydroaniline.  |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| HAZARDS             | <p>Extremely flammable liquid.<br/>Vapor forms explosive mixture with air.<br/>Dangerous when heated to decomposition; emits highly toxic fumes.<br/>It can react vigorously with oxidizing materials.</p> <p>Highly toxic by ingestion, inhalation and skin absorption.<br/>Severe eye and respiratory irritant.<br/>Vapors cause nausea.<br/>Burns skin on contact.</p> <p>TLV 22 ppm.</p> |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p>  |   |

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| CAS No.<br>94-75-7 | 2,4-D ACID<br>White powder.   |  |
| SYNONYMS           | 2,4-Dichlorophenoxyacetic acid.   |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Non-flammable.<br/>           Dangerous when heated to decomposition; it emits highly toxic fumes of chloride.</p> <p>Toxic and irritant.</p> <p>See chlorides.</p> <p>TLV 10 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |

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| C/S No.         | 2,4-D ESTERS   |  |
| SYNONYMS        | 2,4-dichlorophenoxyacetic acid, esters.  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Non-flammable.</p> <p>When heated to decomposition, emits highly toxic vapors.</p> <p>High inhalation hazard.</p> |   |
| EXPOSURE        | <p>CALL FOR MEDICAL AID.</p>   |   |




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| CAS No.<br>75-99-0 | DALAPON   |  |
| SYNONYMS           | "Dowpon M", "Gramevin", "Radapon", Unipon 2, 2-DPA<br>2,2-dichloropropionic acid, 2,2-dichloropropanoic acid.   |   |
| SAFETY MEASURES    | Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS            | <p>Dangerous when heated to decomposition; it emits highly toxic fumes of chlorides.</p> <p>Moderately toxic.<br/>Strong irritant to eyes and skin.</p> <p>See chlorides.</p> |   |
| EXPOSURE           | <p>Irritates skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>                       |   |


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| CAS No.<br>50-29-3 | DDT<br>Odorless, colorless, solid.  |  |
| SYNONYMS           | Dichloro-diphenyl-trichloroethane, chlorophenothane, dicaphane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane   |   |
| SAFETY MEASURES    | Avoid contact with solid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS            | <p>Combustible.<br/>POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE.</p> <p>Absorbed by skin if in solution.<br/>Carcinogenic potential.</p> <p>TLV 1 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Solids</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea, vomiting, headache and loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |










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| CAS No.<br>123-42-2 | <p style="text-align: center;">DIACETONE ALCOHOL</p> <p>Colorless-yellow watery liquid; pleasant odor.</p>   |  |
| SYNONYMS            | 4-hydroxy-4-methylpentanone-2, diacetone.  |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid.</p> <p>Wear goggles and self-contained breathing apparatus.</p>  |   |
| HAZARDS             | <p>Flammable.</p> <p>Can react with oxidizing materials.</p> <p>Moderately toxic.</p> <p>Irritating to eyes and mucous membranes.</p> <p>Narcotic in high concentrations.</p> <p>TLV 50 ppm in air.</p>  |   |
| EXPOSURE            | <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>Harmful if swallowed.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>333-41-5 | <p style="text-align: center;"><b>DIAZINON</b></p> <p>Liquid; faint ester-like odor.</p>   |  |
| SYNONYMS            | "Dipofene", "Diazitol", "Basudin", Spectracide", "G-24", "480"   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Non-flammable.<br/>Emits highly toxic fumes when heated to decomposition.</p> <p>Highly toxic by ingestion, inhalation and skin absorption.<br/>Fatal dose 360 mg/kg.</p> <p>See parathion.</p> <p>TLV 0.1 mg/m<sup>3</sup> by skin absorption.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |


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| CAS No.<br>94-36-0 | <p style="text-align: center;"><b>DIBENZOYL PEROXIDE</b></p> <p>Odorless, white solid powder or granules.</p>   |  |
| SYNONYMS           | Benzoyl peroxide, benzoyl superoxide, lucidol, oxylite, BPO, BP   |   |
| SAFETY MEASURES    | <p>Avoid contact with solid and dust.<br/>Wear goggles and self-contained breathing apparatus.<br/>Stay upwind.</p>   |   |
| HAZARDS            | <p>Highly flammable.<br/>MAY EXPLODE IF SUBJECTED TO HEAT, SHOCK OR FRICTION.<br/>May cause fire and explode on contact with combustibles.<br/>Powerful oxidizer.<br/>Mixed with large surplus of water it is relatively safe.<br/>It is most dangerous when it contains low percentages of water.</p> <p>TLV 5 mg/m<sup>3</sup></p>  |   |
| EXPOSURE           | <p><u>Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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| CAS No.<br>34-74-2 | DIBUTYL PHTHALATE<br><br>Odorless, colorless, oily liquid.  |  |
| SYNONYMS           | Dibutylisophthalate, dibutyl-1,2-benzenedicarboxylate,<br>n-butyl phthalate.  |   |
| SAFETY<br>MEASURES |   |   |
| HAZARDS            | Combustible.<br>Can react with oxidizing materials.<br><br>Moderate ingestive poison.<br><br>TLV 5 mg/m <sup>3</sup> in air.<br><br><br><br><br><br><br><br><br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS. |   |
| EXPOSURE           | <u>Liquid</u><br>No appreciable harm.   |   |


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| CAS No.<br>1913-00-9 | DICAMBA  |  |
| SYNONYMS             | "Banrel D", 3,6-dichloro-o-anisic acid, 2-methoxy-3,6-dichloro benzoic acid. |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Probably toxic.<br>See chlorides.  |   |
| EXPOSURE             | CALL FOR MEDICAL AID.  |   |


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|----------------------|---|---|
| CAS No.<br>1194-65-6 | DICHOLOBENIL  |  |
| SYNONYMS             | 2,6-dichlorobenzonitrile  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Very toxic by ingestion and inhalation.</p> <p>See chlorides and nitriles.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |

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| CAS No.<br>117-30-6 | DICHLONE<br>Golden-yellow crystals.  |  |
| SYNONYMS            | Generic name for 2,3-dichloro-1,4-naphthoquinone, "Phygon"   |   |
| SAFETY<br>MEASURES  |  |   |
| HAZARDS             | <p>When heated to decomposition it emits highly toxic fumes of chlorides.</p> <p>Toxic by ingestion and inhalation.<br/>Irritating to skin, eyes, and mucous membranes.<br/>Large doses can cause central nervous system depression.</p> |   |
| EXPOSURE            |  |   |

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| CAS No.<br>95-50-1 | <p style="text-align: center;"><b>o-DICHLOROBENZENE</b></p> Colorless liquid; pleasant odor.  |  |
| SYNONYMS           | 1,2-dichlorobenzene.  |   |
| SAFETY MEASURES    | Avoid contact with liquid.<br>Wear goggles and self-contained breathing apparatus.  |   |
| HAZARDS            | <p>Combustible.<br/> POISONOUS GASES ARE PRODUCED IN FIRE.<br/> Can react with oxidizing materials.</p> <p>Highly irritant.<br/> Moderately toxic by inhalation and ingestion.<br/> The ortho form is probably more toxic than the para or meta forms.</p>  |   |
| EXPOSURE           | <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS No.<br>106-46-7 | <p style="text-align: center;"><b>P-DICHLOROBENZENE</b></p> White to clear solid crystals; mothball odor.   |  |
| SYNONYMS            | Paradichlorobenzene, "Dichlorocide", "Paradi"   |   |
| SAFETY MEASURES     | Avoid contact with solid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS             | <p>Combustible.<br/>POISONOUS GASES ARE PRODUCED IN FIRE.</p> <p>Moderately toxic.<br/>Irritating to eyes.</p> <p>TLV 75 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|---|---|
| CAS No.<br>75-71-8 | DICHLORODIFLUOROMETHANE<br>Colorless compressed gas; faint odor.  |  |
| SYNONYMS           | "Freon-12", "Arcton 6", "Eskimon 12", "F-12", "Genetron 12", "Isotron 12"   |   |
| SAFETY MEASURES    | ✓   |   |
| HAZARDS            | <p>Non-flammable.<br/>POISONOUS GASES OF PHOSGENE AND FLUORIDES ARE PRODUCED IN FIRE OR ON CONTACT WITH METALS.</p> <p>Narcotic in high concentrations.</p> <p>TLV 1000 ppm in air; 4950 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Not irritating to eyes, nose or throat.<br/>If inhaled, will cause dizziness, difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>75-09-2 | DICHLOROMETHANE<br>Colorless, watery liquid; sweet, pleasant odor.   |  |
| SYNONYMS           | Methane chloride, methylene dichloride.  |   |
| SAFETY MEASURES    | Avoid contact with liquid or vapor.<br>Wear goggles and self-contained breathing apparatus.  |   |
| HAZARDS            | Non-flammable.<br>Vapors form explosive mixtures in air.<br>POISONOUS GASES OF PHOSGENE ARE PRODUCED WHEN HEATED.<br><br>Can be absorbed by the skin.<br>Very dangerous to eyes.<br>Induces narcosis.<br>Narcosis occurs above 500 ppm.<br><br>TLV 500 ppm.  |   |
| EXPOSURE           | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause nausea and dizziness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |








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|-----------------------|--|---|
| CAS No.<br>26638-19-7 | DICHLOROPROPANE<br>Colorless watery liquid; sweet odor.  |  |
| SYNONYMS              | Acetone dichloride, propylene dichloride, telone.  |   |
| SAFETY MEASURES       | Avoid contact with liquid and vapor.<br>Wear rubber overclothing (including gloves) and self-contained breathing apparatus if in fire.<br>Stay upwind.   |   |
| HAZARDS               | Extremely flammable.<br>POISONOUS GASES OF PHOSGENE ARE PRODUCED IN FIRE.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Can react vigorously with oxidizing materials.<br><br>Highly toxic by ingestion, inhalation and skin absorption.<br>One of the more toxic hydrocarbons.<br><br>TLV 75 ppm in air; 346 mg/m <sup>3</sup> of air.  |   |
| EXPOSURE              | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>26952-23-3 | DICHLOROPROPENE<br>Colorless liquid; sweet odor.  |  |
| SYNONYMS              | 1,3-dichloropropylene, Telone.  |   |
| SAFETY MEASURES       | Avoid contact with liquid or vapor.<br>WEAR GOGGLES AND SELF-CONTAINED BREATHING APPARATUS.<br>Wear rubber overclothing (including gloves).   |   |
| HAZARDS               | Flammable.<br>POISONOUS GASES ARE PRODUCED IN FIRE.<br>Can react vigorously with oxidizing materials.<br><br>Highly toxic by ingestion and inhalation.<br>Strong irritant.  |   |
| EXPOSURE              | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |

|                    |   |   |
|--------------------|---|---|
| CAS No.<br>62-73-7 | DICHLORVOS  |  |
| SYNONYMS           | Generic name for 2,2-dichlorovinyl dimethyl phosphate, DDVP.  |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Highly toxic.</p> <p>See chlorides and phosphorus compounds.</p> <p>TLV 0.1 ppm in air by skin absorption.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |

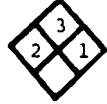
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| CAS No.<br>77-73-6 | DICYCLOPENTADIENE<br>Colorless liquid or solid crystals; camphor odor.  |  |
| SYNONYMS           | Bicyclopentadiene   |   |
| SAFETY MEASURES    | Avoid contact with liquid.<br>Stay upwind.  |   |
| HAZARDS            | Combustible.<br>Very toxic.   |   |
| EXPOSURE           | <u>Liquid or Solid</u><br>Irritating to skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br>CALL FOR MEDICAL AID. |   |


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|--------------------|--|---|
| CAS No.<br>60-57-1 | DIELDRIN<br>Crystalline.   |  |
| SYNONYMS           | Compound 497, Octalox, HEDD, and other trade names.  |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | <p>Non-flammable.<br/>When heated to decomposition it emits highly toxic fumes of chlorides.</p> <p>Is readily absorbed through the skin.<br/>Potential carcinogen.</p> <p>See aldrin.</p> <p>TLV 0.25 mg/m<sup>3</sup>.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>   |   |

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|---------------------|---|---|
| CAS No.<br>111-42-2 | DIETHANOLAMINE<br>Oily liquid; white crystals; dead fish odor.  |  |
| SYNONYMS            | di(2-hydroxyethyl)amine, DEA, 2,2-iminodiethanol, bis(2-hydroxyethyl)amine.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS             | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>Slightly irritating to skin, eyes and lungs.<br/>Toxic by ingestion or inhalation.</p> <p>See amines.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |






|                     |   |   |
|---------------------|---|---|
| CAS No.<br>105-58-8 | DIETHYL CARBONATE   |  |
| SYNONYMS            | Ethyl carbonate, carbonic ether, carbonic acid diethyl ester.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Vapor may explode if ignited in enclosed area.<br/>Flashback along vapor trail may occur.<br/>Can react with oxidizing materials.</p> <p>Moderately toxic by ingestion and inhalation.<br/>Strong irritant.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause headache, dizziness, nausea, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>109-89-7 | DIETHYLAMINE<br>Colorless, watery liquid; fishy, ammonia odor.   |  |
| SYNONYMS            | DEN  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS             | Extremely flammable.<br>Flashback along vapor trail may occur.<br>Irritating vapors are produced when heated.<br>Vapor may explode if ignited in an enclosed area.<br><br>A severe respiratory irritant and corrosive to the skin and eyes.<br><br>TLV 25 ppm in air.<br><br><br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.   |   |
| EXPOSURE            | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Harmful if inhaled.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br><br><br>CALL FOR MEDICAL AID. |   |






|                     |  |   |
|---------------------|--|---|
| CAS No.<br>111-90-0 | DIETHYLENE GLYCOL MONOETHYL ETHER<br>Colorless liquid; fruity odor.  |  |
| SYNONYMS            | Poly Solv DE, Dowanol DE, Carbitol, 2-(2-ethoxyethoxy) ethanol.  |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Moderately flammable.<br/>Can react with oxidizing materials.</p> <p>Mildly irritant.<br/>Highly toxic by ingestion.</p> <p>See glycols.</p>        |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Harmful if swallowed.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |












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|-----------------------|--|---|
| CAS No.<br>25167-70-8 | DIISOBUTYLENE<br>Colorless liquid; gasoline-like odor.   |  |
| SYNONYMS              | 2,4,4-Trimethyl-1-pentene.   |   |
| SAFETY MEASURES       | Stay upwind.   |   |
| HAZARDS               | <p>Extremely flammable.<br/>Vapor may explode if ignited in an enclosed area.<br/>Flashback along vapor trail may occur.<br/>Dangerous, can react vigorously with oxidizing materials.<br/>When heated to decomposition, emits highly toxic vapors.</p> <p>Irritant and narcotic in high concentrations.<br/>Mildly toxic by inhalation.</p>   |   |
| EXPOSURE              | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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|---------------------|---|---|
| CAS No.<br>124-40-3 | DIMETHYLAMINE<br>Liquefied compressed gas; dead fish or ammonia odor  |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid and vapor.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>   |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Can react vigorously with oxidizing materials.<br/>When heated to decomposition, emits toxic fumes.</p> <p>Moderately toxic by ingestion and inhalation.<br/>Eye, skin, and respiratory irritant.<br/>Direct and prolonged contact can cause burns or severe injury.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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| CAS No.<br>57-14-7 | 1,1-DIMETHYL HYDRAZINE<br>Colorless, watery liquid; fishy or ammonia-like odor   |  |
| SYNONYMS           | asym-dimethyl hydrazine, Dimazine, unsym-dimethylhydrazine, UDMH   |   |
| SAFETY MEASURES    | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear chemical-protective suit with self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | Extremely flammable.<br>Flashback along vapor trail may occur.<br>DANGEROUS GASES ARE PRODUCED WHEN HEATED.<br>Can react vigorously with oxidizing materials.<br>Highly toxic.<br>Absorbed by skin.<br><br>TLV 0.5 ppm in air by skin absorption.  |   |
| EXPOSURE           | Vapor<br>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br>Liquid<br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Will burn eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


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|--------------------|--|---|
| CAS No.<br>77-73-1 | <p style="text-align: center;"><b>DIMETHYL SULFATE</b></p> Colorless liquid; mild onion odor.  |  |
| SYNONYMS           | Methyl sulfate.  |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>   |   |
| HAZARDS            | <p>Combustible liquid.<br/>Can react with oxidizing materials.<br/>POISONOUS GASES ARE PRODUCED WHEN HEATED.</p> <p>Possible carcinogenic.<br/>Highly toxic.<br/>Absorbed by the skin.<br/>Particularly hazardous to eyes.</p> <p>TLV 1 ppm.</p>   |   |
| EXPOSURE           | <p>Liquid<br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
| CAS No.<br>67-68-5     | <p style="text-align: center;"><b>DIMETHYL SULFOXIDE</b></p> Colorless, liquid; mild garlic odor.  |  |
| <b>SYNONYMS</b>        | DMSO   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>POISONOUS GASES MAY BE PRODUCED IN FIRE.<br/>Can react with oxidizing materials.</p> <p>Dangerous if ingested.<br/>Slight inhalation hazard.<br/>Freely penetrates skin.<br/>Moderately toxic by skin absorption.<br/>Can act as solvent for skin absorption of other more toxic materials.<br/>An irritant and allergen.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p> |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

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|--------------------|--|---|
| CAS No.<br>97-02-9 | 2,4-DINITROANILINE<br>Yellow powder or crystals; musty odor.   |  |
| SYNONYMS           | 2,4-dinitrophenylamine.  |   |
| SAFETY MEASURES    | AVOID CONTACT WITH SOLID AND DUST.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| HAZARDS            | Flammable.<br>May explode if subjected to heat or flame.<br>Can react with oxidizing agents.<br>POISONOUS GAS IS PRODUCED WHEN HEATED.<br><br>Highly toxic by ingestion and inhalation.<br>Strong irritant.<br>A powerful poison.  |   |
| EXPOSURE           | Dust<br>POISONOUS IF INHALED.<br>Move to fresh air.<br><br>Solid<br>POISONOUS IF SWALLOWED OF IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |





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|-----------------------|---|---|
| CAS No.<br>25154-54-5 | DINITROBENZENE<br>Colorless or yellowish needles or plates.   |  |
| SYNONYMS              | o-dinitrobenzol   |   |
| SAFETY MEASURES       | Wear protective clothing; self-contained breathing apparatus.   |   |
| HAZARDS               | <p>Highly explosive.<br/>It can be detonated by shock or heat under confinement that will permit high pressure build-up.<br/>When heated to decomposition, it emits toxic fumes of oxides of nitrogen, and explodes.<br/>Can react vigorously with oxidizing materials.</p> <p>Extremely toxic by absorption, ingestion, or inhalation.<br/>Strong irritant.</p> <p>See oxides of nitrogen.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |


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| CAS No.<br>1344-30-5 | DINITRO-ORTHO, SEC-BUTYL PHENOL<br>Crystals. |  |
| SYNONYMS             |  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | Highly toxic.<br>See nitrates.               |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                        |   |

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|--------------------|---|---|
| CAS No.<br>51-28-5 | 2,4-DINITROPHENOL<br>Yellow crystals; sweet musty odor.   |  |
| SYNONYMS           | $\alpha$ -Dinitrophenol, 1-hydroxy-2,4-dinitro-benzene.   |   |
| SAFETY MEASURES    | AVOID CONTACT WITH SOLID AND DUST.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS            | <p>Flammable.<br/>POISONOUS GAS IS PRODUCED WHEN HEATED.<br/>Highly explosive.</p> <p>Highly toxic.<br/>Absorbed by the skin.<br/>Dust inhalation may be fatal.<br/>Can damage liver, kidneys, or cause death.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Dust</u><br/>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>POISONOUS IF SWALLOWED.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |



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|------------------------|---|---|
| CAS No.<br>117-81-7    | <b>DIOCTYL PHTHALATE</b><br>Colorless, oily liquid; slight odor.  |  |
| <b>SYNONYMS</b>        | Phthalic acid, bis(2-ethylhexyl ester), DOP, Bis(2-ethylhexyl) phthalate, Di(2-ethylhexyl)phthalate, actoil di-sec-octyl phthalate. |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | Combustible.<br>May react with oxidizing agents.<br>Probably a slight ingestive and inhalative toxin.                               |   |
| <b>EXPOSURE</b>        | Not harmful.  |   |


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|---------------------|--|---|
| CAS No.<br>123-91-1 | 1,4-DIOXANE<br>Colorless liquid; slight alcohol odor.  |  |
| SYNONYMS            | Dioxane, p-dioxane, diethylene oxide, diethylene dioxide, dioxyethylene ether.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS             | <p>Highly flammable liquid.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Can react vigorously with oxidizing materials.<br/>Can form explosive peroxides under certain conditions.</p> <p>Highly toxic by inhalation.<br/>Absorbed by the skin.<br/>Eye, skin and respiratory irritant and poison.<br/>Repeated exposure to low concentrations has resulted in death.</p> <p>TLV 100 ppm.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk; have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

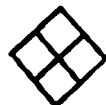
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| CAS no.<br>92-52-4 | DIPHENYL   |  |
| SYNONYMS           | Biphenyl.  |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | <p>Slightly flammable.<br/> Can react with oxidizing materials.<br/> Highly toxic by ingestion or inhalation.<br/> TLV 0.2 ppm in air.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>   |   |

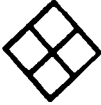





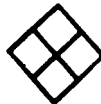


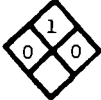
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| CAS No.<br>2764-72-9 | DIQUAT  |  |
| SYNONYMS             | Aquacide, Dextrone, Reglone, Diquat dibromide   |   |
| SAFETY MEASURES      | Avoid contact with compound.<br>Wear chemical-protective suit and self-contained breathing apparatus. |   |
| HAZARDS              | Highly toxic on contact.<br>TLV 0.5 mg/m <sup>3</sup> of air.   |   |
| EXPOSURE             | CALL FOR MEDICAL AID.   |   |

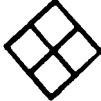
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|                 | <p><b>DISTILLATES FLASHED FEED STOCKS</b></p> <p>Colorless liquid; gasoline-like odor.</p>  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES | <p>Avoid contact with liquid and vapor.<br/>Stay upwind.</p>  |   |
| HAZARDS         | <p>Flammable.<br/>Vapor may explode if ignited in enclosed area.<br/>Flashback along vapor trail may occur.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquids</u><br/>Irritating to eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|---|---|
|                        | <p align="center"><b>DISTILLATES STRAIGHT RUN</b></p> <p>Colorless, watery liquid; gasoline-like odor.</p>  |  |
| <b>SYNONYMS</b>        | Straight run gasoline.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/>Stay upwind.</p>  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.</p> <p align="center">HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p align="center">CALL FOR MEDICAL AID.</p> |   |

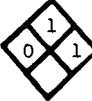
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| CAS No.<br>298-34-4 | DISULFONTON   |  |
| SYNONYMS            | o,o-diethyl-s-2-(ethylthio)ethyl phosphorodithioate.              |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | Highly toxic by ingestion or inhalation.<br>Absorbed by the skin. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.   |   |


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|---------------------|--|---|
| CAS No.<br>330-54-1 | DIURON   |  |
| SYNONYMS            | 3-(3,4-dichlorophenyl)-1,1-dimethylurea.                     |   |
| SAFETY MEASURES     | Non-flammable.<br>On decomposition emits highly toxic fumes. |   |
| HAZARDS             | On decomposition emits highly toxic fumes.<br>Highly toxic.  |   |
| EXPOSURE            | CALL FOR MEDICAL AID.  |   |


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|---------------------|--|---|
| CAS No.<br>112-54-9 | <p style="text-align: center;">DODECANOL</p> Colorless, thick liquid; sweet odor.  |  |
| SYNONYMS            | Lauryl alcohol, Dodecyl alcohol.   |   |
| SAFETY<br>MEASURES  | Avoid contact with liquid.   |   |
| HAZARDS             | Flammable.   |   |
| EXPOSURE            | <p> <u>Liquid</u><br/> Irritating to skin.<br/> Will burn eyes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water. </p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>25373-22-7 | DODECENE<br>Colorless, watery liquid; pleasant odor.  |  |
| SYNONYMS              | Dodecylene, propylene tetramer.   |   |
| SAFETY<br>MEASURES    | Avoid contact with liquid.  |   |
| HAZARDS               | Combustible.<br>May react with oxidizing materials.   |   |
| EXPOSURE              | Liquid<br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |




|                     |  |   |
|---------------------|--|---|
| CAS No.<br>112-41-4 | 1-DODECENE<br>Colorless, watery liquid; mild pleasant odor.  |  |
| SYNONYMS            | Alpha-Dodecylene.  |   |
| SAFETY MEASURES     | Avoid contact with liquid.   |   |
| HAZARDS             | Combustible.   |   |
| EXPOSURE            | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


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|-----------------------|--|---|
| CAS No.<br>27176-37-0 | DODECYL BENZENE SULFONIC ACID<br>DDBSA, sodium dodecylbenzensulfonate. |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | Moderately toxic by ingestion.   |   |
| EXPOSURE              | CALL FOR MEDICAL AID.  |   |


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|----------------------|--|---|
| CAS No.<br>8004-13-5 | DOWTHERM<br>Light-dark brown liquid; fragrant odor.  |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      | Avoid contact with liquid.<br>Wear self-contained breathing apparatus.   |   |
| HAZARDS              | Combustible.   |   |
| EXPOSURE             | <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>2921-88-2 | DURSBAN  |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Highly toxic.<br/>Affects nervous system.</p> <p>See chlorides and parathion.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |





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|--------------------|--|---|
| CAS No.<br>72-20-8 | ENDRIN   |  |
| SYNONYMS           |  |   |
| SAFETY MEASURES    | <p>Nonflammable.<br/>Powder will decompose on heating, emitting highly toxic fumes of hydrogen chloride and chlorinated decomposition products.</p> <p>Highly toxic by inhalation, ingestion, and skin absorption.</p> <p>See aldrin.</p> <p>TLV 0.25 mg/m<sup>3</sup> of air.</p> |   |
| HAZARDS            |  |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>   |   |


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|---------------------|---|---|
| CAS No.<br>106-39-3 | <p style="text-align: center;"><b>EPICHLOROHYDRIN</b></p> <p>Colorless, watery liquid; sweet garlic odor.</p>   |  |
| SYNONYMS            | 1-chloro-2,3-epoxypropane, 3-chloro-1,2-propylene oxide.  |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.<br/>Materials quickly corroded by hydrogen chloride should not be used.</p>   |   |
| HAZARDS             | <p>Moderately flammable.<br/>Vapors may explode if ignited in an enclosed area.<br/>POISONOUS GASES OF PHOSGENE ARE PRODUCED IN FIRE.<br/>Can react with oxidizing materials.</p> <p>Irritant and allergen.<br/>Highly toxic by ingestion, inhalation, and skin absorption.<br/>Estimated that 1 gram could be fatal.</p> <p>See phosgene.</p> <p>TLV 5 ppm.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
| CAS No.<br>74-34-0     | ETHANE<br>Colorless, liquefied compressed gas; gasoline odor.  |  |
| <b>SYNONYMS</b>        | Bimethyl, methyl methane, dimethyl, ethyl hydride.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor explosive if ignited in an enclosed area.<br>May react vigorously with oxidizing materials.<br><br>A simple asphyxiant.   |   |
| <b>EXPOSURE</b>        | <u>Vapor</u><br>If inhaled will cause difficult breathing.<br>Not irritating to eyes, nose and throat.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will cause frostbite.<br>Flush affected areas with plenty of water.<br>DO NOT RUB AFFECTED AREAS.<br><br>CALL FOR MEDICAL AID. |   |





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|---------------------|--|---|
| CAS No.<br>563-12-2 | ETHION<br>Liquid.  |  |
| SYNONYMS            | o,o,o',o'-tetraethyl-s,s-methylene diphosphorodithioate.   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>When heated to decomposition, emits highly toxic fumes of oxides of sulphur and phosphorus.</p> <p>Probably highly toxic.</p> <p>See parathion.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |


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|-----------------|---|---|
|                 | <p>ETHOXY TRIGLYCOL</p> <p>Odorless, colorless liquid.</p>    |  |
| SYNONYMS        | Ethoxytriethylene glycol, Triethylene glycol monoethyl ether. |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | Combustible.  |   |
| EXPOSURE        | Not harmful.  |   |


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|------------------------|---|---|
| CAS No.<br>9002-92-0   | <p style="text-align: center;"><b>ETHOXYLATED DODECANOL</b></p> Colorless-to-yellow oily liquid; pleasant odor.   |  |
| <b>SYNONYMS</b>        | Ethoxylated dodecyl alcohol, ethoxylated lauryl alcohol, Tergitol nonionic, TMN.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | Combustible.  |   |
| <b>EXPOSURE</b>        | <p> <u>Liquid</u><br/> Irritating to skin.<br/> Will burn eyes.<br/> Harmful if swallowed.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. </p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>34393-05-5 | <p style="text-align: center;">ETHOXYLATED PENTADECANOL</p> Colorless-to-yellow liquid; pleasant odor.   |  |
| SYNONYMS              | Ethoxylated pentadecyl alcohol, Tergitol nonionic 45-S-10.   |   |
| SAFETY MEASURES       | Avoid contact with liquid.   |   |
| HAZARDS               | Combustible.   |   |
| EXPOSURE              | <p> <u>Liquid</u><br/> Irritating to skin.<br/> Will burn eyes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water. </p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|---|---|
| CAS No.<br>27306-79-2  | <p style="text-align: center;"><b>ETHOXYLATED TETRADECANOL</b></p> <p>Colorless-to-yellow liquid; pleasant odor.</p>  |  |
| <b>SYNONYMS</b>        | Ethoxylated tetradecyl alcohol, ethoxylated myristyl alcohol, Tergitol nonionic 45-S-10.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | Combustible.  |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>         Irritating to the skin.<br/>         Will burn eyes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.</p> |   |


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|-----------------------|--|---|
| CAS No.<br>24933-91-8 | ETHOXYLATED TRIDECANOL<br>Colorless-to-yellow liquid; pleasant odor.   |  |
| SYNONYMS              | Ethoxylated tridecyl alcohol, Tergitol nonionic 3-A-6.   |   |
| SAFETY MEASURES       | Avoid contact with liquid.   |   |
| HAZARDS               | Combustible.   |   |
| EXPOSURE              | <p>Liquid<br/> Irritating to skin.<br/> Will burn eyes.<br/> Harmful if swallowed.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|--|---|
| CAS No.<br>141-78-6 | <div style="text-align: center;">ETHYL ACETATE</div> Colorless, watery liquid; pleasant fruity odor.   |  |
| SYNONYMS            | Acetic acid ethyl ester, ethyl ethanoate, acetic ester.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear eye and respiratory equipment.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in enclosed area.<br/>May react vigorously with oxidizing materials.</p> <p>Moderately toxic by inhalation, ingestion, and skin absorption.<br/>Irritating to skin and eyes.<br/>High concentrations may injure kidney and liver.</p> <p>TLV 400 ppm.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled will cause headache, dizziness, nausea, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>140-88-5    | <p style="text-align: center;"><b>ETHYL ACRYLATE</b></p> Colorless liquid; fruity odor.   |  |
| <b>SYNONYMS</b>        | Acrylic acid ethyl ester, Ethyl-2-propenoate.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/> Containers may explode in fire.<br/> Flashback along vapor trail may occur.<br/> Vapor may explode if ignited in an enclosed area.<br/> Can react vigorously with oxidizing materials.</p> <p>Can penetrate the skin.</p> <p>TLV 25 ppm.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause headache or nausea.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |







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| CAS No.<br>100-41-4 | <div style="text-align: center;">ETHYL BENZENE</div> Colorless liquid; sweet, gasoline-like odor.  |  |
| SYNONYMS            | EB, phenylethane, ethylbenzol.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.</p> <p>Moderately toxic by ingestion, inhalation and skin absorption.<br/>Strong irritant.<br/>Narcotic in high concentrations.</p> <p>TLV 100 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>97-95-0 | <p style="text-align: center;">ETHYL BUTANOL</p> Colorless liquid; mild alcohol odor.  |  |
| SYNONYMS           | 2-ethylbutyl alcohol, sec-pentylcarbinol, pseudohexyl alcohol.   |   |
| SAFETY MEASURES    | Avoid contact with alcohol.  |   |
| HAZARDS            | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>May be toxic by ingestion.<br/>May be mild irritant by direct contact.</p>  |   |
| EXPOSURE           | <p><u>Liquid</u><br/>Will burn eyes.<br/>Harmful if swallowed.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|--------------------|--|---|
| CAS No.<br>75-00-3 | ETHYL CHLORIDE<br>Colorless liquid; pleasant odor.   |  |
| SYNONYMS           | Chloroethane, ether hydrochloric, muriatic ether.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS            | <p>Highly flammable liquid which rapidly volatilizes at room temperature.<br/>Vapor may explode if ignited in an enclosed area.<br/>POISONOUS PHOSGENE GAS IS PRODUCED IN FIRE.<br/>Reacts with water or steam to produce toxic and corrosive fumes.<br/>Can react violently with oxidizing materials.</p> <p>Slight eye, skin and respiratory irritant.<br/>Inhalation produces narcotic and anesthetic effects.</p> <p>See phosgene.</p> <p>TLV 1000 ppm in air.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|--|---|
| CAS No.<br>60-29-7 | ETHYL ETHER<br>Colorless, watery liquid; sweet odor.   |  |
| SYNONYMS           | Sulfuric ether, anesthesia ether, ether, diethyl oxide.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Severe explosive hazard.</p> <p>Moderately toxic by ingestion, inhalation, and skin absorption.<br/>Medical anesthetic.</p> <p>TLV 400 ppm in air.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, headache, and loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |



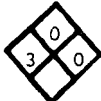
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|--------------------|--|---|
| CAS No.<br>74-85-1 | <p style="text-align: center;"><b>ETHYLENE</b></p> Colorless liquefied compressed gas; sweet odor.   |  |
| SYNONYMS           | Ethene, elayl, etherin.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable gas.<br/>Flashback along vapor trail may occur.<br/>May explode if ignited in an enclosed area.<br/>Explosive in sunlight with chlorine.<br/>Can react vigorously with oxidizing materials.</p> <p>High concentrations cause anesthesia.<br/>A simple asphyxiant.<br/>Moderately toxic by inhalation.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Not irritating to eyes, nose and throat.<br/>If inhaled, will cause headache, dizziness, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|---------------------|--|---|
| CAS No.<br>109-78-4 | <p style="text-align: center;"><b>ETHYLENE CYANOHYDRIN</b></p> Colorless-to-yellow-brown liquid; weak odor.  |  |
| SYNONYMS            | β-hydroxypropionitrile, hydracrylonitrile, glycol cyanohydrin  |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Wear full-protective clothing and self-contained breathing apparatus.<br>Do not use soft steel equipment.  |   |
| HAZARDS             | <p>Flammable.<br/> POISONOUS GASES (CYANIDES) PRODUCED WHEN HEATED.<br/> Will react with acid or acid fumes, water and steam to produce toxic and flammable vapors.<br/> Can react vigorously with oxidizing materials.</p> <p>Fatal amounts may be absorbed through the skin.<br/> Can cause cyanosis, dizziness, and headache.</p> <p>See nitriles.<br/> TLV 5 ppm.</p>  |   |
| EXPOSURE            | <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |





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|---------------------|--|---|
| CAS No.<br>107-15-3 | ETHYLENE DIAMINE<br>Colorless liquid; mild ammonia odor.   |  |
| SYNONYMS            | 1,2-diaminoethane, 1,2-ethanediamine.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| HAZARDS             | Combustible.<br>May react with oxidizing materials.<br><br>Strong irritant to skin and eyes.<br>Highly toxic by inhalation and skin absorption.<br><br>TLV 10 ppm.<br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE            | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Harmful if inhaled.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br><br>CALL FOR MEDICAL AID. |   |




|                     |   |   |
|---------------------|---|---|
| CAS No.<br>106-93-4 | <p style="text-align: center;"><b>ETHYLENE DIBROMIDE</b></p> Colorless liquid; sweet odor.  |  |
| SYNONYMS            | 1,2-Dibromoethane, glycol dibromide.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS             | <p>Non-flammable.<br/>Reacts vigorously with metals (aluminum, magnesium, radium and potassium), strong alkalis and oxidizing agents.<br/>POISONOUS GASES ARE PRODUCED WHEN HEATED.</p> <p>Toxic by inhalation, skin contact, or ingestion.<br/>Strongly irritating to eyes, skin and respiratory tract.<br/>Prolonged or repeated exposures in any form are hazardous.</p> <p>TLV 25 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |



|  |  |   |  |                         |
|--|--|---|--|-------------------------|
| CAS No.<br>107-21-1                            | ETHYLENE GLYCOL<br>Odorless, colorless thick liquid.   |  |  |                         |
| SYNONYMS                                       | Glycol, monoethylene glycol, 1,2-ethanediol, glycol alcohol, ethylene alcohol.   |   |  |                         |
| SAFETY MEASURES                                |  |   |  |                         |
| HAZARDS  | <p>Flammable.<br/>Moderate explosion hazard when exposed to heat or flame.</p> <p>Ingestive poison.<br/>Very toxic in particulate form.<br/>May be fatal through kidney damage.</p> <table><tr><td><u>Particulate</u><br/>TLV 10 mg/m<sup>3</sup></td><td><u>Vapor</u><br/>100 ppm</td></tr></table>   |   | <u>Particulate</u><br>TLV 10 mg/m <sup>3</sup> | <u>Vapor</u><br>100 ppm |
| <u>Particulate</u><br>TLV 10 mg/m <sup>3</sup> | <u>Vapor</u><br>100 ppm  |   |  |                         |
| EXPOSURE                                       | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |  |                         |

|                        |   |   |
|------------------------|---|---|
| CAS No.<br>110-71-4    | <p style="text-align: center;"><b>ETHYLENE GLYCOL DIMETHYL ETHER</b></p> Colorless liquid; fragrant odor.   |  |
| <b>SYNONYMS</b>        | Monoglyme, 1,2-dimethoxyethane, glyme, dimethylcellosolve, Ansul ether 12, GDME, glycol dimethyl ether.   |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>May react with oxidizing materials.<br/>Explosive when exposed to sparks or flame.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Not irritating to skin.<br/>If swallowed will cause nausea, vomiting, or loss of consciousness.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                        |  |   |
|------------------------|--|---|
| CAS No.<br>110-80-5    | <p>ETHYLENE GLYCOL MONOETHYL ETHER</p> <p>Colorless oily liquid; sweet odor.</p>   |  |
| <b>SYNONYMS</b>        | Poly-solv EE, Dowanol EE, Cellosolve, Glycol monethyl ether, 2-ethoxyethanol.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid.</p> <p>Wear protective clothing and self-contained breathing apparatus.</p>  |   |
| <b>HAZARDS</b>         | <p>Combustible.</p> <p>Moderately explosive when vapor is exposed to heat or flame.</p> <p>May react with oxidizing materials.</p> <p>Moderately toxic.</p> <p>Absorbed by the skin.</p> <p>Ingestive poison.</p> <p>Mild irritant by inhalation and skin absorption.</p> <p>See glycols.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>Harmful if swallowed.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |




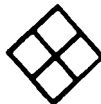






|                    |  |   |
|--------------------|--|---|
| CAS No.<br>75-21-8 | <p style="text-align: center;"><b>ETHYLENE OXIDE</b></p> Colorless, liquefied gas; sweet odor.   |  |
| SYNONYMS           | Oxinane, 1,2-epoxyethane.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear gas-tight goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.  |   |
| HAZARDS            | <p>Highly flammable.<br/>Containers may explode when heated.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>May react with oxidizing materials.<br/>Highly explosive when exposed to flame.</p> <p>Highly toxic.<br/>Irritating to skin and eyes.</p> <p>TLV 50 ppm in air.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting and difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>151-56-4 | ETHYLENEIMINE<br>Colorless, oily liquid; ammonia odor.  |  |
| SYNONYMS            | Dimethyleneimine, aziridine.  |   |
| SAFETY MEASURES     | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS             | Highly flammable.<br>Containers may explode when heated.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Heat and/or the presence of catalytically active metals or chloride ions can cause a violent exothermic reaction.<br>When heated to decomposition, emits highly toxic fumes.<br><br>Highly toxic and corrosive.<br>Absorbed by the skin.<br>Intensely irritating to skin.<br><br>TLV 0.5 ppm in air.   |   |
| EXPOSURE            | <u>Vapor</u><br>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Will burn eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |


|                      |                         |   |
|----------------------|-------------------------|---|
| CAS No.<br>1135-57-5 | FERRIC AMMONIUM CITRATE |  |
| SYNONYMS             | Iron ammonium citrate.  |   |
| SAFETY MEASURES      |                         |   |
| HAZARDS              | Toxicity low.           |   |
| EXPOSURE             |                         |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>55488-87-4 | FERRIC AMMONIUM OXALATE  |  |
| SYNONYMS              | Iron ammonium oxalate.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Emits toxic fumes when heated.</p> <p>Moderately toxic.</p> <p>Irritant to skin and mucous membranes.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |

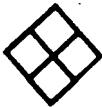
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|----------------------|---|---|
| CAS No.<br>7705-08-0 | FERRIC CHLORIDE<br>Black-brown solid.   |  |
| SYNONYMS             | Iron chloride, ferric trichloride, ferric perchloride, iron trichloride, iron perchloride.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Non-flammable.<br>Dangerous, when heated to decomposition, it emits highly toxic fumes of chlorides and hydrochloric acid.<br>Will react with water to produce toxic and corrosive fumes.<br><br>Mild irritant.<br>Moderately toxic by ingestion. |   |
| EXPOSURE             |   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7783-50-8 | FERRIC FLUORIDE<br>Green crystals.  |  |
| SYNONYMS             | Iron fluoride.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Highly toxic.<br/>Strong irritant.</p> <p>See fluorides.</p> <p>TLV 2.5 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |





|                      |                         |   |
|----------------------|-------------------------|---|
| CAS No.<br>1301-70-8 | FERRIC GLYCEROPHOSPHATE |  |
| SYNONYMS             |                         |   |
| SAFETY<br>MEASURES   |                         |   |
| HAZARDS              |                         |   |
| EXPOSURE             |                         |   |



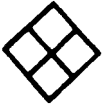
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| CAS No.<br>10045-86-0 | FERRIC PHOSPHATE<br>Iron phosphate. |  |
| SYNONYMS              |                                     |   |
| SAFETY<br>MEASURES    |                                     |   |
| HAZARDS               | Low toxicity.                       |   |
| EXPOSURE              |                                     |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10028-22-5 | FERRIC SULFATE   |  |
| SYNONYMS              | Iron sulfate, ferric trisulfate, iron tersulfate, iron persulfate.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Non-flammable.<br/>Emits sulfur oxides when heated to decomposition.</p> <p>Mild irritant.<br/>Slightly toxic by ingestion.<br/>Practically non-toxic systemically.</p> |   |
| EXPOSURE              |  |   |


|                       |                                     |   |
|-----------------------|-------------------------------------|---|
| CAS No.<br>10045-89-3 | FERROUS AMMONIUM SULFATE            |  |
| SYNONYMS              | Mohr's salt, iron ammonium sulfate. |   |
| SAFETY MEASURES       |                                     |   |
| HAZARDS               |                                     |   |
| EXPOSURE              |                                     |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7758-94-3 | FERROUS CHLORIDE<br>Green-to-yellow, deliquescent crystals.  |  |
| SYNONYMS             | Iron chloride, iron dichloride, iron protochloride, Lawrencite.  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>When heated to decomposition, emits highly toxic fumes of hydrochloric acid.</p> <p>Low toxicity.</p> <p>See chlorides.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |




|                      |   |   |
|----------------------|---|---|
| CAS NO.<br>7720-78-7 | FERROUS SULFATE<br>Odorless, green solid.   |  |
| SYNONYMS             | Iron vitriol, green vitriol, Copperas, iron(ous) sulfate, Sal-chalbis.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Non-flammable.<br><br>Slightly toxic by inhalation and ingestion.<br>Mild irritant.   |   |
| EXPOSURE             | <p> <u>Solid</u><br/>           If swallowed will cause nausea, vomiting or loss of consciousness.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>           IF SWALLOWED and victim is CONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.         </p> <p>CALL FOR MEDICAL AID.</p> |   |





|                 |  |   |
|-----------------|--|---|
|                 | FLUORIDES  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Dangerous when heated to decomposition or on contact with acid or acid fumes; they emit highly toxic fumes.</p> <p>Inorganic fluorides are generally highly irritant and toxic.</p> |   |
| EXPOSURE        |  |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7782-41-4 | FLUORINE<br>Clear-to-yellow liquefied gas; very irritating odor  |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      | <p>Avoid contact with liquid and vapor.<br/>Wear chemical-protective suit with self-contained breathing apparatus.</p>   |   |
| HAZARDS              | <p>Non-flammable.<br/>WILL CAUSE FIRE AND REACT VIOLENTLY WITH COMBUSTIBLES.<br/>POISONOUS GAS IS PRODUCED IN FIRE.<br/>Dangerously reactive gas.<br/>Reacts vigorously with most oxidizable and reducing substances at room temperature, frequently with ignition.<br/>Reacts with water to form hydrogen fluoride and oxygen.<br/>Reacts with nitric acid to form explosive gas.</p> <p>Toxic gas.<br/>A very powerful caustic irritant.<br/>Burns skin, eyes, and respiratory tract.<br/>Fatal dose 0.5 g/kg of body weight.</p> <p>TLV 0.1 ppm.                      2.5 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p>   |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>50-00-0     | <p align="center"><b>FORMALDEHYDE</b></p> <p>Colorless watery liquid; irritating odor.</p>   |  |
| <b>SYNONYMS</b>        | Formalith, Fyde, formaline, formic aldehyde solution, methanal solution, oxymethylene.   |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid.<br/>Wear gas-tight goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).</p>  |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>Vapor will burn.<br/>Explosive at elevated temperatures.</p> <p>Highly toxic by inhalation, ingestion, or skin contact.<br/>Irritant to eyes, skin and respiratory tract.<br/>Allergen.</p> <p>TIV 2 ppm in air.</p> <p><b>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</b></p>   |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>If swallowed, will cause nausea, vomiting or loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |




|                     |  |   |
|---------------------|--|---|
| CAS No.<br>110-17-3 | FUMARIC ACID<br>Colorless, odorless crystals.                                    |  |
| SYNONYMS            | Boletic acid, lichenic acid, allomaleic acid, trans-butendioic acid.             |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | Flammable at elevated temperatures.<br>Mild irritant.<br>Slight ingestive toxin. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.  |   |


|                    |  |   |
|--------------------|--|---|
| CAS No.<br>93-01-1 | FURFURAL   |  |
| SYNONYMS           | 2-furancarbal, 2-furaldehyde, fural, furale, ant oil, pyromucic aldehyde, bran oil.  |   |
| SAFETY MEASURES    | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).  |   |
| HAZARDS            | <p>Flammable liquid.<br/>Vapor forms flammable mixture with air.<br/>Moderately explosive when exposed to heat, flame or by chemical action.<br/>Explosion may occur on contact with mineral acid, alkalies, or heat and flame.<br/>May react with oxidizing materials.</p> <p>Irritant.<br/>Highly toxic.<br/>Absorbed by the skin.<br/>Very dangerous to eyes.</p> <p>TLV 5 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>                                   |   |
| EXPOSURE           | <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                 |   |   |
|-----------------|---|---|
|                 | GASOLINES   |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES | Stay upwind.  |   |
| HAZARDS         | <p>Flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts with oxidizing materials.<br/>Moderately explosive when exposed to flame.</p> <p>Acts as a simple asphyxiant.</p> <p>TIV 500 ppm in air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, headache, difficult breathing and loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>56-81-5     | <p style="text-align: center;"><b>GLYCERINE</b></p> Odorless, colorless oily liquid.                                 |  |
| <b>SYNONYMS</b>        | 1,2,3-propanetriol, 1,2,3-trihydroxypropane, glycerol, glycol alcohol.   |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Can react violently with powerful oxidizers.</p> <p>Mild irritant.<br/>Slight ingestive toxin.</p> |   |
| <b>EXPOSURE</b>        | Not harmful.   |   |





|                        |   |   |
|------------------------|---|---|
| CAS No.<br>106-91-2    | <b>GLYCIDYL METHACRYLATE</b><br>Colorless liquid; fruity odor.  |  |
| <b>SYNONYMS</b>        | Glycidyl alpha-methyl acrylate, methacrylic acid-2,3-epoxy-propyl ester.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).  |   |
| <b>HAZARDS</b>         | Combustible.  |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |


|                 |  |   |
|-----------------|--|---|
|                 | GLYCOLS  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Dihydric alcohols are physically and chemically related to glycerol.</p> <p>Most glycols have low volatility and consequently present little danger from inhalation of vapors.</p> <p>Severe and even fatal poisonings have been reported following ingestion of ethylene glycol.</p> |   |
| EXPOSURE        |  |   |




|                    |  |   |
|--------------------|--|---|
| CAS No.<br>76-44-8 | HEPTACHLOR<br>Crystals.  |  |
| SYNONYMS           | Velsicol-104, E-3314, Heptagran, Drinox.   |   |
| SAFETY<br>MEASURES |  |   |
| HAZARDS            | <p>Non-flammable.<br/>Dangerous when heated to decomposition, it emits highly toxic fumes.</p> <p>Highly toxic by ingestion, inhalation or skin exposure.<br/>Acute exposure will cause liver damage.</p> <p>TLV 0.25 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>   |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>142-82-5    | <p style="text-align: center;"><b>HEPTANE</b></p> Colorless, watery liquid; gasoline-like odor.  |  |
| <b>SYNONYMS</b>        | Heptyl hydride, dipropyl methane, n-heptane.   |   |
| <b>SAFETY MEASURES</b> | Stay upwind.   |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor can explode if ignited in an enclosed area.<br/>May react vigorously with oxidizing materials.</p> <p>Narcotic in high concentrations.<br/>Moderately toxic by inhalation.</p> <p>TLV 500 ppm in air.</p> <p><b> DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Not irritating to eyes, nose or throat.<br/>If inhaled, will cause coughing or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>53535-33-4  | <p style="text-align: center;"><b>HEPTANOL</b></p> Colorless, watery liquid; weak alcohol odor.  |  |
| <b>SYNONYMS</b>        | Enanthic alcohol, 1-hydroxyheptane, 1-heptanol, heptyl alcohol, alcohol C-7. Enanthyl alcohol.   |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | Moderately flammable.<br>May react with oxidizing materials.<br><br>Direct contact may dry skin by drawing out oils.<br>Probably low toxicity. |   |
| <b>EXPOSURE</b>        | Not harmful.   |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>592-76-7 | 1-HEPTENE<br>Colorless watery liquid; gasoline-like odor.   |  |
| SYNONYMS            | $\alpha$ -heptylene, heptylene.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS             | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br><br>A simple asphyxiant.  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>124-09-4    | <b>HEXAMETHYLENE DIAMINE</b><br>Colorless solid or watery liquid; ammonia odor.   |  |
| <b>SYNONYMS</b>        | 1,6-hexanediamine, 1,6-diaminohexane.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| <b>HAZARDS</b>         | Combustible.<br>Can react with oxidizing materials.<br>When heated to decomposition, emits toxic vapors.<br><br>May irritate skin, eyes, and mucous membranes.<br>Moderately toxic by ingestion.<br>Strong irritant.  |   |
| <b>EXPOSURE</b>        | <u>Liquid or Solid</u><br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Will burn eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |








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|------------------------|---|---|
| CAS No.<br>110-54-3    | <div style="text-align: center;"> <b>HEXANE</b> </div> Colorless, watery liquid; gasoline-like odor.  |  |
| <b>SYNONYMS</b>        | N-hexane, hexyl hydride.  |   |
| <b>SAFETY MEASURES</b> | Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Can react vigorously with oxidizing materials.<br/>Vapor may explode if ignited in an enclosed area.</p> <p>May irritate respiratory tract.<br/>Narcotic in high concentrations.<br/>Slightly toxic by inhalation and ingestion.</p> <p>TLV 500 ppm in air.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to nose and throat.<br/>If inhaled, will cause coughing and dizziness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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|-----------------------|---|---|
| CAS No.<br>25264-93-1 | <div style="text-align: center;">1-HEXENE</div> Colorless, watery liquid; mild pleasant odor.   |  |
| SYNONYMS              | Butylethylene, hexylene, $\alpha$ -hexene.  |   |
| SAFETY<br>MEASURES    | Avoid contact with liquid and vapor.<br>Wear protective clothing and self-contained breathing apparatus<br>Stay upwind.   |   |
| HAZARDS               | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>May react vigorously with oxidizing materials.<br><br>Moderately toxic and irritant.  |   |
| EXPOSURE              | <p><u>Vapor</u><br/>         If inhaled, will cause dizziness, difficult breathing or loss of consciousness.<br/>         Move to fresh air.<br/>         If breathing has stopped, give artificial respiration.<br/>         If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>         Irritating to skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove contaminated clothing and shoes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>         DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>107-41-5 | HEXYLENE GLYCOL<br>Colorless, oily liquid; mild sweet odor.   |  |
| SYNONYMS            | 2-methyl-2,4-pentanediol  |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | <p>Combustible.<br/>Can react with oxidizing materials.</p> <p>Large oral doses can produce narcosis.<br/>Irritating to skin, eyes, and mucous membranes.</p> <p>See glycols.</p>   |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>302-01-2 | <p style="text-align: center;"><b>HYDRAZINE</b></p> Colorless, watery liquid; ammonia odor.   |  |
| SYNONYMS            | Hydrazine base, diamine, hydrazine anhydrous.   |   |
| SAFETY<br>MEASURES  | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear chemical-protective suit with self-contained breathing apparatus.<br/> Stay upwind.</p>   |   |
| HAZARDS             | <p>Highly flammable and explosive.<br/> May ignite by itself when in contact with earth, wood, or cloth.<br/> Vapor may explode if ignited in an enclosed area.<br/> When heated to decomposition, emits toxic fumes.</p> <p>Vapors are very toxic and attack eyes and respiratory system.<br/> Liquid is corrosive to skin.<br/> Can be absorbed by the skin.</p> <p>TLV 1 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/> POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/> Irritating to eyes.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/> Will burn eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>7647-01-0 | <p style="text-align: center;"><b>HYDROCHLORIC ACID</b></p> Colorless, watery liquid; sharp irritating odor.   |  |
| SYNONYMS             | Muriatic acid, chlorohydric acid.  |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH LIQUID AND VAPOR.</p> Wear chemical-protective suit with self-contained breathing apparatus.<br>Respiratory equipment should not be constructed of materials readily corroded by acid.<br>Stay upwind.   |   |
| HAZARDS              | <p>Non-flammable.</p> When heated to decomposition, emits highly toxic fumes of chlorides.<br>Flammable gas may be produced on contact with metals. <p>Toxic.</p> Eye, skin and respiratory irritant.<br>Irritating to mucous membranes and eyes.<br>Inhalation of concentrations of about 1500 ppm are fatal in a few minutes. <p>TLV 5 ppm.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u></p> Irritating to eyes, nose and throat.<br>If inhaled, will cause coughing or difficult breathing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen. <p><u>Liquid</u></p> Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING. <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>7664-39-3   | <b>HYDROFLUORIC ACID</b><br>Colorless-to-green watery liquid; irritating odor.  |  |
| <b>SYNONYMS</b>        | Fluorhydric acid.   |   |
| <b>SAFETY MEASURES</b> | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear chemical-protective suit and self-contained breathing apparatus.<br>Need plastic lens goggles (attacks glass).<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | Non-flammable.<br>Flammable gas may be produced on contact with metals.<br>When heated it emits highly corrosive fumes of fluorides.<br>Will react with water or steam to produce toxic or corrosive fumes.<br><br>Highly toxic by inhalation or ingestion.<br>Highly corrosive to skin and mucous membranes.<br>Gangrene of affected areas may follow.<br><br>TLV 3 ppm in air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.   |   |
| <b>EXPOSURE</b>        | <u>Vapor</u><br>Will burn eyes, nose and throat.<br>Harmful if swallowed.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |




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| CAS No.<br>7647-01-0 | <p style="text-align: center;"><b>HYDROGEN CHLORIDE</b></p> Colorless-yellow, liquefied gas; irritating odor.  |  |
| SYNONYMS             | Hydrochloric acid, anhydrous.  |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear chemical-protective suit with self-contained breathing apparatus.<br/>Stay upwind.</p>  |   |
| HAZARDS              | <p>Non-flammable.<br/>Flammable gas may be produced on contact with metals.<br/>TLV 5 ppm.</p> <p style="text-align: center;">DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Will cause frostbite.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.<br/>DO NOT RUB AFFECTED AREAS.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


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|--------------------|--|---|
| CAS No.<br>74-90-8 | <p style="text-align: center;"><b>HYDROGEN CYANIDE</b></p> <p>Colorless, watery liquid or gas;bitter almond odor.</p>  |  |
| SYNONYMS           | Hydrocyanic acid, prussic acid.  |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>EVACUATE AREA.<br/>WEAR CHEMICAL-PROTECTIVE SUIT WITH SELF-CONTAINED BREATHING APPARATUS.<br/>Breathing apparatus alone is not considered adequate protection in atmospheres containing more than 100 ppm because toxic amounts can be absorbed through the skin.<br/>Stay upwind.</p>   |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Highly explosive when exposed to heat or flame and by chemical reaction with oxidizers.<br/>Will react with water, steam, acid or acid fumes to produce toxic fumes.</p> <p>Extremely toxic - a few breaths can cause death.</p> <p>See cyanides.</p> <p>TLV 10 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration (but <u>NOT</u> mouth-to-mouth).<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Irritating to eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>7664-39-3   | <p style="text-align: center;"><b>HYDROGEN FLUORIDE</b></p> Colorless liquid; sharp irritating odor.  |  |
| <b>SYNONYMS</b>        | Hydrofluoric acid, anhydrous.   |   |
| <b>SAFETY MEASURES</b> | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear chemical-protective suit including self-contained breathing apparatus.<br/>Stay upwind.</p>  |   |
| <b>HAZARDS</b>         | <p>Non-flammable.<br/>Flammable gas may be produced on contact with metals.<br/>When heated it emits highly toxic fumes of fluorides.<br/>Will react with water or steam to produce toxic and corrosive fumes.</p> <p>TLV 3 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>7722-84-1 | HYDROGEN PEROXIDE<br>Colorless, watery liquid; slight sharp odor.   |  |
| SYNONYMS             | Hydrogen dioxide, peroxide, albone, superoxol.  |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID AND VAPOR.  |   |
| HAZARDS              | <p>Non-flammable.<br/>Powerful oxidizing material.<br/>May cause fire and explode on contact with combustible metals.<br/>Violent decomposition may be caused by contact with iron, copper, chromium, brass, bronze, lead, silver, manganese and their salts.<br/>Severely explosive when highly concentrated or exposed to heat or mechanical impact.</p> <p>Extremely irritating to eyes, skin and respiratory tract.</p> <p>TLV 1 ppm.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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| CAS No.<br>123-31-9 | HYDROQUINONE<br>Colorless, hexagonal prisms.  |  |
| SYNONYMS            | 1,4-benzenediol, quinol, hydroquinol.   |   |
| SAFETY MEASURES     | Avoid contact with solid or vapors.   |   |
| HAZARDS             | <p>Flammable.<br/>Slightly explosive when exposed to heat.<br/>Reacts with oxidizing materials.</p> <p>Irritant and allergen.</p> <p>TLV 2 ppm.</p>   |   |
| EXPOSURE            | <p>Solid or Dust<br/>Harmful if inhaled.<br/>Harmful if swallowed.<br/>Will cause nausea, dizziness, headache and finally collapse.<br/>On contact with skin will cause dermatitis.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of soap and warm water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>7803-49-8 | <div> <div>HYDROXYLAMINE</div> <div>Colorless liquid or white needles.</div> </div>  |  |
| SYNONYMS             | Oxammonium.  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Highly flammable.<br/> Highly explosive under confinement.<br/> When heated to decomposition, emits toxic vapors.</p> <p>Moderately toxic by inhalation and ingestion.<br/> A local irritant.</p> |   |
| EXPOSURE             |  |   |


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|-----------------|--|---|
|                 | IODIDES  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Similar in toxicity to bromides.<br/> Prolonged absorption of iodides may produce "iodism" which is manifested by skin rash, runny nose, headache and irritation of mucous membranes.<br/> In severe cases, the skin may show pimples, boils, redness, black and blue spots, hives and blisters.<br/> When heated to decomposition they emit highly toxic fumes of iodine and iodine compounds.</p> |   |
| EXPOSURE        |  |   |





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| CAS No.<br>123-51-3 | ISOAMYL ALCOHOL<br>Colorless, liquid; mild choking alcohol odor.  |  |
| SYNONYMS            | Isobutyl carbinol, fusel oil, isopentyl alcohol, 3 methyl-1-butanol, fermentation amyl alcohol.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.  |   |
| HAZARDS             | <p>Combustible.<br/>Slightly explosive when exposed to heat or flame.<br/>Reacts vigorously with oxidizing materials.</p> <p>Moderately toxic and irritant.</p> <p>TLV 100 ppm in air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>IF IN EYES, hold eyelids open and flush with plenty of water</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>75-28-5 | ISOBUTANE<br>Odorless, colorless, liquefied compressed gas.  |  |
| SYNONYMS           | 2-methylpropane, trimethyl methane.  |   |
| SAFETY MEASURES    | Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Highly explosive when exposed to heat or flame.<br/>Can react vigorously with oxidizing materials.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes.<br/>If inhaled, will cause dizziness, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>110-19-0 | ISOBUTYL ACETATE<br>Colorless, watery liquid; pleasant fruity odor.  |  |
| SYNONYMS            | Acetic acid isobutyl ester.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>May explode if ignited in an enclosed area.<br/>Extremely explosive near heat or flame.</p> <p>Moderately toxic by ingestion or inhalation.<br/>Narcotic in high concentrations.</p> <p>TLV 150 ppm in air.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, dizziness, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>106-63-8 | ISOBUTYL ACRYLATE<br>Colorless watery liquid; sharp fragrant odor.   |  |
| SYNONYMS            | Isobutyl-2-propenoate, acrylic acid isobutyl ester.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.   |   |
| HAZARDS             | Combustible.   |   |
| EXPOSURE            | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|--------------------|---|---|
| CAS No.<br>78-83-1 | ISOBUTYL ALCOHOL<br>Colorless, oily liquid; mild alcohol, choking odor.   |  |
| SYNONYMS           | Isopropylcarbinol, 2-methyl-1-propanol, isobutanol.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS            | <p>Flammable.<br/>Moderately explosive when exposed to heat or flame.<br/>Vapor may explode if ignited in an enclosed area.<br/>Emits toxic fumes when heated.</p> <p>Strong irritant.<br/>Highly toxic by ingestion or inhalation.</p> <p>TLV 100 ppm.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, dizziness, and headache.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>Harmful if swallowed.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>115-11-7 | ISOBUTYLENE<br>Colorless, liquefied compressed gas; gasoline odor.  |  |
| SYNONYMS            | Isobutene, 2-methylpropene.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.</p> <p>Simple asphyxiant.<br/>May have narcotic action.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>73-84-2 | ISOBUTYRALDEHYDE<br>Colorless watery liquid;pleasant gasoline-like odor  |  |
| SYNONYMS           | 2-methyl propanal, isobutyric aldehyde, isobutylaldehyde.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Can react vigorously with reducing materials.  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin.<br/>Will burn eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |











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|---------------------|--|---|
| CAS No.<br>107-83-5 | <p style="text-align: center;"><b>ISOHEXANE</b></p> <p>Watery, liquid; gasoline-like odor.</p>   |  |
| SYNONYMS            | 2-methylpentane  |   |
| SAFETY MEASURES     | Stay upwind  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flash back along vapor trail may occur.<br/>Explosive when exposed to sparks, heat or open flame.<br/>Can react with oxidizing materials.<br/>Vapor may explode if ignited in an enclosed area.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INCLUDE VOMITING.</p> <p style="text-align: center;">CALL FOR MEDICAL AID</p> |   |




|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>26952-21-6 | ISOOCTYL ALCOHOL<br>Colorless liquid; mild odor.   |  |
| SYNONYMS              | Isooctanol, 6-methyl-1-heptanol, oxo-octyl alcohol   |   |
| SAFETY MEASURES       | Avoid contact with liquid.   |   |
| HAZARDS               | Highly flammable.<br>May be toxic by ingestion or inhalation.  |   |
| EXPOSURE              | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID |   |

|                    |   |   |
|--------------------|---|---|
| CAS No.<br>78-78-4 | ISOPENTANE<br>Colorless, watery liquid; gasoline-like odor.   |  |
| SYNONYMS           | 1-methyl butane, isoamyl hydride, ethyldimethylmethane.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS            | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br><br>See pentane.  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to nose and throat.<br/>If inhaled, will cause coughing, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea or vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                    |  |   |
|--------------------|--|---|
| CAS No.<br>73-79-5 | ISOPRENE<br>Colorless watery liquid; mild odor   |  |
| SYNONYMS           | 2-methyl-1,3-butadiene, beta-methylbiviny1, 3-methyl-1-1,3-butadiene.  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear skin protection and self-contained breathing apparatus.<br>Stay upwind.   |   |
| HAZARDS            | Highly flammable and explosive.<br>Flashback along vapor trail may occur.<br>Containers may explode in fire.<br>Vapor may explode if ignited in an enclosed area.<br>Reacts vigorously with reducing agents.<br><br>Moderately toxic by inhalation and ingestion.<br>Irritant.<br>Narcotic in high concentrations.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS   |   |
| EXPOSURE           | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br>CALL FOR MEDICAL AID |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>108-21-4 | ISOPROPYL ACETATE<br>Colorless, watery liquid; pleasant fruity odor.  |  |
| SYNONYMS            | 2-propyl acetate, acetic acid, isopropyl ester.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.<br/>Moderately explosive when exposed to heat or flame.</p> <p>Moderately toxic by ingestion or inhalation.<br/>Narcotic in high concentrations.<br/>Mild irritant.</p> <p>TLV 250 ppm.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                    |  |   |
|--------------------|--|---|
| CAS No.<br>67-63-0 | ISOPROPYL ALCOHOL<br>Colorless, watery liquid; unpleasant alcohol odor   |  |
| SYNONYMS           | Isopropanol, 2-propanol, dimethyl carbinol, sec-propyl alcohol, rubbing alcohol  |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Moderately explosive.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.</p> <p>Moderately toxic by inhalation or ingestion.<br/>Absorbed by the skin.<br/>Narcotic in high concentrations.</p> <p>TLV 400 ppm in air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATION.</p>                                  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to eyes.<br/>Harmful if swallowed.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID</p> |   |













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|---------------------|--|---|
| CAS No.<br>115-32-2 | KELTHANE   |  |
| SYNONYMS            | Di(p-chlorophenyl)-trichloromethyl carbinol, DTMC, DicofoI   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Nonflammable<br/>When heated to decomposition emits toxic chlorides</p> <p>Highly toxic.</p> <p>See chlorides and DDT</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID</p>  |   |


|                        |   |   |
|------------------------|---|---|
|                        | <p style="text-align: center;"><b>KEROSENE</b></p> <p>Colorless, watery liquid; fuel oil odor</p>   |  |
| <b>SYNONYMS</b>        | JP-1 Jet fuel, range oil, Fuel oil No.1, illuminating oil   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>Moderate explosion hazard when exposed to flame or heat.</p> <p style="text-align: center;">DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p style="text-align: center;">CALL FOR MEDICAL AID</p> |   |

|                 |  |   |
|-----------------|--|---|
|                 | <p>LATEX, LIQUID SYNTHETIC</p> <p>White, liquid</p>  |  |
| SYNONYMS        | Plastic latex, synthetic rubber latex  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Not flammable.</p> <p>Combustible solid produced when heated.</p>   |   |
| EXPOSURE        | <p><u>Liquid</u></p> <p>Irritating to eyes.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID</p> |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>112-55-0 | LAURYL MERCAPTAN<br>Colorless, oily liquid, mild skunk odor  |  |
| SYNONYMS            | 1-dodecanethiol, dodecyl mercaptan, tert-dodecyl mercaptan   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS             | Highly flammable.<br>POISONOUS GASES PRODUCED WHEN HEATED.   |   |
| EXPOSURE            | <p>Liquid or Solid<br/> Irritating to skin and eyes.<br/> If swallowed, will cause nausea.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID</p> |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>15347-57-6 | <div> <div>LEAD ACETATE</div> <div>White crystals or brown or gray lumps.</div> </div>                          |  |
| SYNONYMS              | Sugar of lead.  |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | A suspected carcinogen.<br>Highly toxic by ingestion, inhalation or skin absorption.<br><br>See lead compounds. |   |
| EXPOSURE              | <div></div> <div>CALL FOR MEDICAL AID.</div>  |   |





|                        |  |   |
|------------------------|--|---|
| CAS No.<br>7645-25-2   | <p style="text-align: center;"><b>LEAD ARSENATE</b></p> <p>Odorless, white solid.</p>  |  |
| <b>SYNONYMS</b>        | Plumbous arsenate, lead arsenate acid, lead-o-arsenate, lead di-o-arsenate, lead mono-o-arsenate, lead pyroarsenate, lead-m-arsenate.  |   |
| <b>SAFETY MEASURES</b> | <p>AVOID CONTACT WITH SOLIDS.</p> <p>Wear skin protection and filter mask.</p>   |   |
| <b>HAZARDS</b>         | <p>Not flammable.</p> <p>On heating, emits highly toxic fumes.</p> <p>Poisonous through acute or chronic inhalation, ingestion and skin absorption.</p> <p>Arsenate compounds are allergens and irritants.</p> <p>See lead compounds.</p> <p>TLV 0.15 mg/m<sup>3</sup> in air.</p> <p><br/>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| <b>EXPOSURE</b>        | <p>Solids</p> <p><b>POISONOUS IF SWALLOWED.</b></p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.</p> <p>IF SWALLOWED and victim is UNCONSCIOUS, limit first aid to keeping victim warm.</p> <p><br/>CALL FOR MEDICAL AID.</p>   |   |





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7758-95-4 | LEAD CHLORIDE<br>White crystals  |  |
| SYNONYMS             | Contunnite   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Highly toxic by inhalation, ingestion and skin absorption<br>See lead compounds and chlorides. |   |
| EXPOSURE             | CALL FOR MEDICAL AID   |   |

|                 |   |   |
|-----------------|---|---|
|                 | LEAD COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Toxicity of various lead compounds is dependent on several factors:</p> <ol style="list-style-type: none"> <li>1. The solubility of the compound in body fluids.</li> <li>2. The fineness of the particles of the compound.</li> <li>3. Of the lead compounds, the carbonate, monoxide, and sulfate are considered more toxic than metallic lead.</li> </ol> <p>Lead arsenate is very toxic.</p> <p>Lead compounds can be absorbed through the skin, especially organic compounds of lead.</p> <p>Lead is a cumulative poison.</p> |   |
| EXPOSURE        |   |   |


|                       |                             |   |
|-----------------------|-----------------------------|---|
| CAS no.<br>13814-96-5 | LEAD FLUOBORATE             |  |
| SYNONYMS              |                             |   |
| SAFETY<br>MEASURES    |                             |   |
| HAZARDS               | See lead compounds          |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID</p> |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7783-46-2 | <div> <div>LEAD FLUORIDE</div> <div>Colorless solid</div> </div>   |  |
| SYNONYMS             |  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Highly toxic, strong irritant.</p> <p>See lead compounds and fluorides.</p> <p>TLV 2.5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID</p>  |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10101-63-0 | LEAD IODIDE  |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Highly toxic</p> <p>See lead compounds and iodides.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID</p>                                |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10099-74-8 | <div> <div>LEAD NITRATE</div> <div>White crystals.</div> </div>   |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>           Flammable.<br/>           Strong oxidizing material.<br/>           Decomposes at 210° C releasing toxic gaseous oxides of nitrogen.<br/>           In contact with easily oxidized materials can cause ignition, combustion or explosion.<br/>           Increases flammability of any combustible materials.<br/><br/>           Highly toxic.<br/>           Can be absorbed by the skin.<br/><br/>           See lead compounds.         </p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |





|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7428-48-0 | <p style="text-align: center;">LEAD STEARATE</p> White powder.            |  |
| SYNONYMS             |   |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Highly toxic.<br/>Absorbed by the skin.</p> <p>See lead compounds.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |

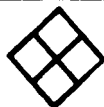



|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1314-87-0 | LEAD SULFIDE<br>Silvery metallic crystals or black powder. |  |
| SYNONYMS             | Galena, plumbous sulfide.                                  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Highly toxic by ingestion.<br>See lead compounds.          |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                                      |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>546-67-3 | <p style="text-align: center;">LEAD TETRAACETATE</p> Colorless to faintly pink crystals. |  |
| SYNONYMS            |  |   |
| SAFETY<br>MEASURES  |  |   |
| HAZARDS             | <p>Highly toxic.<br/> Absorbed by the skin.</p> <p>See lead compounds.</p>               |   |
| EXPOSURE            | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>                                 |   |


|                     |   |   |
|---------------------|---|---|
| CAS No.<br>592-87-0 | <p style="text-align: center;">LEAD THIOCYANATE</p> White, monoclinic crystals. |  |
| SYNONYMS            | Lead sulfocyanate.  |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | <p>Highly toxic by inhalation and ingestion.</p> <p>See lead compounds.</p>     |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>  |   |


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|-----------------------|--|---|
| CAS No.<br>26265-65-6 | <p style="text-align: center;">LEAD THIOSULFATE</p> White crystals.  |  |
| SYNONYMS              | Lead hyposulfite.  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>When heated to decomposition, emits highly toxic fumes of lead and oxides of sulfur.</p> <p>See lead compounds.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |

|                       |                                      |   |
|-----------------------|--------------------------------------|---|
| CAS No.<br>12737-98-3 | LEAD TUNGSTATE<br>Yellowish powder.  |  |
| SYNONYMS              | Lead wolframate.                     |   |
| SAFETY MEASURES       |                                      |   |
| HAZARDS               | Highly toxic.<br>See lead compounds. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.                |   |

|                 |   |   |
|-----------------|---|---|
|                 | <p>LINEAR ALCOHOLS</p> <p>Colorless, liquid; mild alcohol odor.</p>   |  |
| SYNONYMS        | Tridecanol, tetradecanol.   |   |
| SAFETY MEASURES | Avoid contact with liquid.  |   |
| HAZARDS         | Combustible.  |   |
| EXPOSURE        | <p>Liquid</p> <p>Irritating to skin.</p> <p>Will burn eyes.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> |   |
|                 | CALL FOR MEDICAL AID.   |   |




|                        |  |   |
|------------------------|--|---|
|                        | <p align="center"><b>LIQUEFIED NATURAL GAS</b></p> <p>Liquefied compressed gas; odorless or skunk odor.</p>  |  |
| <b>SYNONYMS</b>        | LNG  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid.<br/>Stay upwind.</p>   |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>May explode if ignited in an enclosed area.<br/>Vapor forms explosive mixture with air.<br/>Incomplete combustion yields carbon monoxide.</p> <p>Vapor is a simple asphyxiant.</p> <p>TLV 1000 ppm.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Not irritating to eyes, nose or throat.<br/>If inhaled, will cause dizziness, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected area with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                        |  |   |
|------------------------|--|---|
|                        | <p align="center"><b>LIQUEFIED PETROLEUM GAS</b></p> <p>Colorless, liquefied compressed gas; weak odor.</p>  |  |
| <b>SYNONYMS</b>        | Propane-butane-(propylene), Pyrofax, LPG.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid.<br/>Stay upwind.</p>   |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Containers may explode in fire.<br/>May explode if ignited in an enclosed area.</p> <p>TLV 1000 ppm.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Not irritating to eyes, nose, or throat.<br/>If inhaled, will cause loss of consciousness, dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |




|                       |   |  |
|-----------------------|---|--|
| CAS No.<br>13843-31-7 | LITHIUM BICHROMATE<br>Yellowish-red, crystalline powder.  |  |
| SYNONYMS              | Lithium dichromate.   |  |
| SAFETY<br>MEASURES    |   |  |
| HAZARDS               | Highly toxic.<br>A recognized carcinogen.<br>May ignite organic materials.<br>Reacts with reducing materials.<br>See chromium compounds.<br>TLV as chromate = 0.2 mg/m <sup>3</sup> of air. |  |
| EXPOSURE              | CALL FOR MEDICAL AID.   |  |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>14307-35-8 | LITHIUM CHROMATE<br>Yellow crystalline powder.   |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Combustible.<br/>May ignite organic materials.<br/>Reacts with reducing materials.</p> <p>Highly toxic.<br/>Strong irritant.</p> <p>See chromium compounds.</p> <p>TLV as chromate = 0.1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |




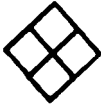
|                     |  |   |
|---------------------|--|---|
| CAS No.<br>121-75-5 | MALATHION  |  |
| SYNONYMS            | Dimethyl dithiophosphate of diethyl mercaptosuccinate, Cynthion insecticide.   |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID.<br/>Wear chemical-protective suit with self-contained breathing apparatus.</p>   |   |
| HAZARDS             | <p>Combustible.<br/>POISONOUS GASES ARE PRODUCED IN FIRE OR WHEN HEATED.<br/>Containers may explode in fire.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/>TLV 15 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p>Liquid<br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Irritating to eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>110-16-7 | <p style="text-align: center;">MALEIC ACID</p> <p>White crystals, faint acidulous odor.</p>  |  |
| SYNONYMS            | Maleinic acid, toxilic acid, cis-butenedioic acid.   |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Slightly flammable (requires preheating).</p> <p>Moderately toxic by ingestion and inhalation.</p> <p>Strong irritant to tissues.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |

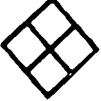



|                     |   |   |
|---------------------|---|---|
| CAS No.<br>108-31-6 | MALEIC ANHYDRIDE<br>Colorless crystals, tablets or molten; choking odor.  |  |
| SYNONYMS            | Toxic anhydride, cis-butenedioic anhydride, 2,5-furandione.   |   |
| SAFETY MEASURES     | Avoid contact with solid and liquid.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS             | Flammable.<br>Dust cloud may explode if ignited by sparks or flame.<br>When heated, emits toxic fumes.<br>Can react with oxidizing materials, water or steam.<br><br>Strong irritant.<br>Highly toxic by ingestion or inhalation.<br><br>TLV 0.25 ppm.<br><br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.   |   |
| EXPOSURE            | Liquid or Solid<br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID. |   |

|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1600-27-7 | <p>MERCURIC ACETATE</p> <p>White, crystalline powder.</p>   |  |
| SYNONYMS             | Mercury acetate.  |   |
| SAFETY MEASURES      | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS              | <p>When heated to decomposition, emits highly toxic fumes of mercury.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant.</p> <p>See mercury compounds.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

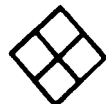
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| CAS No.<br>10124-48-8 | MERCURIC AMMONIUM CHLORIDE<br>White lumps or powder.  |  |
| SYNONYMS              | Mercury ammonium chloride.  |   |
| SAFETY MEASURES       | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS               | <p>When heated to decomposition, emits highly toxic fumes of mercury.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant.</p> <p>See mercury compounds.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p>  |   |
| EXPOSURE              | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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|----------------------|---|---|
| CAS No.<br>7487-94-7 | <p style="text-align: center;">MERCURIC CHLORIDE</p> White crystals or powder.  |  |
| SYNONYMS             | Corrosive sublimate.  |   |
| SAFETY<br>MEASURES   | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS              | <p>When heated to decomposition, emits highly toxic fumes of mercury and chlorides.</p> <p>Highly toxic by ingestion, inhalation and skin absorption.<br/>MAY BE FATAL.</p> <p>See mercury compounds and chlorides.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS No.<br>592-04-1 | <p style="text-align: center;"><b>MERCURIC CYANIDE</b></p> <p>White crystalline solid, odorless.</p>  |  |
| SYNONYMS            | Mercury cyanide.  |   |
| SAFETY MEASURES     | <p>Approach from upwind.<br/>Wear full protective clothing, self-contained breathing apparatus.</p>   |   |
| HAZARDS             | <p>Dangerous, when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of cyanides and mercury.<br/>Will react with water or steam to produce toxic fumes.</p> <p>Highly toxic by inhalation, ingestion, and skin absorption.</p> <p>See mercury compounds, hydrogen cyanide.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE            | <p>Remove contaminated clothing and shoes.<br/>Flush affected skin areas with water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p>   |   |




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|-----------------------|---|---|
| CAS No.<br>10045-94-0 | MERCURIC NITRATE<br>White-yellowish powder.   |  |
| SYNONYMS              | Mercury nitrate, mercury pernitrate.  |   |
| SAFETY MEASURES       | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS               | <p>Dangerous fire risk in contact with organic materials.<br/> Highly toxic.</p> <p>See mercury compounds.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p>   |   |
| EXPOSURE              | <p><u>Vapor</u><br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |




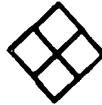
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| CAS No.<br>21908-53-2 | <div> <div>MERCURIC OXIDE</div> <div>Odorless, orange-yellow or orange-red powder.</div> </div>   |  |
| SYNONYMS              | Mercury oxide, red or yellow.   |   |
| SAFETY MEASURES       | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS               | <p>When heated to decomposition, emits highly toxic fumes of mercury.<br/>Can react with reducing materials.</p> <p>Highly toxic.</p> <p>See mercury compounds.</p> <p>TLV 0.05 mg/m<sup>3</sup> in air.</p>  |   |
| EXPOSURE              | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|----------------------|---|---|
| CAS No.<br>7783-35-9 | <p style="text-align: center;">MERCURIC SULFATE</p> <p>White crystalline powder.</p>  |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS              | <p>Dangerous when heated to decomposition, emits highly toxic fumes of mercury.</p> <p>Highly toxic by ingestion, inhalation, or skin absorption. Is an allergen.</p> <p>See mercury compounds and sulfates.</p> <p>TLV 0.05 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

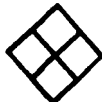


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| CAS No.<br>7546-30-7 | MERCUROUS CHLORIDE<br>White rhombic crystals or crystalline powder.   |  |
| SYNONYMS             | Calomel; mercury monochloride; monochloride; mercury protochloride; mercury chloride.   |   |
| SAFETY MEASURES      | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS              | <p>When heated to decomposition, emits highly toxic fumes of mercury and chlorides.<br/>When in contact with acids, evolves highly toxic chloride fumes.</p> <p>Highly irritant and allergenic.<br/>Highly toxic by ingestion, inhalation, or skin absorption.</p> <p>See mercury compounds and chlorides.</p> <p>TLV 0.05 mg/m<sup>3</sup> of air.</p>         |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|----------------------|---|---|
| CAS No.<br>7783-30-4 | <p>MERCUROUS IODIDE</p> <p>Yellow tetragonal crystals or amorphous powder.</p>  |  |
| SYNONYMS             | Mercury protoiodide.  |   |
| SAFETY MEASURES      | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS              | <p>When heated to decomposition, emits highly toxic fumes of iodine and iodine compounds or mercury.</p> <p>Irritant and allergen.</p> <p>Highly toxic by ingestion, inhalation, or skin absorption.</p> <p>See mercury compounds and iodides.</p> <p>TLV 0.05 mg/m of air.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u></p> <p>Move to fresh air.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p><u>Solid</u></p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|-----------------------|---|---|
| CAS No.<br>10415-75-5 | <p style="text-align: center;">MERCUROUS NITRATE</p> Short colorless prismatic crystals.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       | Full protective clothing, appropriate breathing apparatus.  |   |
| HAZARDS               | <p>POISON.<br/>When heated to decomposition, emits highly toxic fumes of mercury.<br/>Explosion hazard.<br/>Nitrates may explode when shocked, when exposed to heat or flame, or by spontaneous chemical reaction.</p> <p>Irritant and allergen.<br/>Highly toxic by ingestion, inhalation, or skin absorption.</p> <p>See mercury compounds and nitrates.</p> <p>TLV 0.05 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE              | <p><u>Vapor</u><br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>   |   |





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|-----------------|---|---|
|                 | MERCURY COMPOUNDS   |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES | <p>Avoid contact with all mercury compounds.<br/> Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).</p>   |   |
| HAZARDS         | <p>When heated to decomposition, emit highly toxic fumes of mercury.</p> <p>Toxic by ingestion, inhalation or skin absorption.<br/> Mercury salts can cause severe eye injury.</p> <p>TLV 0.05 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE        | <p>CALL FOR MEDICAL AID.</p>  |   |





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|--------------------|---|---|
| CAS No.<br>74-82-8 | METHANE<br>Colorless liquefied compressed gas; weak odor.   |  |
| SYNONYMS           | Marsh gas, natural gas, methyl hydride.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Explosive when exposed to heat or flame.<br/>May explode if ignited in an enclosed area.</p> <p>A simple asphyxiant.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Not irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, difficult breathing and loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|---|---|
| CAS No.<br>22959-24-0  | <b>METHANEARSONIC ACID, SODIUM SALTS</b><br>Odorless colorless solid or red or green solution.  |  |
| <b>SYNONYMS</b>        | Disodium methane arsonate, monosodium methane arsonate, MSMA, DSMA, Sodium methylarsonate.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with solid and solution.<br>Wear goggles and self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | Non-flammable.<br>POISONOUS GASES ARE PRODUCED WHEN HEATED.<br>Highly toxic by ingestion and inhalation.<br>See arsenic compounds.<br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.   |   |
| <b>EXPOSURE</b>        | Solid or Solution<br>Irritating to skin and eyes.<br>If swallowed, will cause nausea, vomiting or loss of consciousness.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |


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|--------------------|---|---|
| CAS no.<br>72-43-5 | METHOXYCHLOR<br>Crystals.   |  |
| SYNONYMS           | DMDT, Methoxy DDT.  |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Dangerous when heated to decomposition, it emits highly toxic fumes of chlorides.</p> <p>Prolonged exposure may cause kidney damage.<br/>Allergen.</p> <p>See also DDT.</p> <p>TLV 15 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |

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|------------------------|---|---|
| CAS No.<br>96-33-3     | <p style="text-align: center;"><b>METHYL ACRYLATE</b></p> <p>Colorless, watery liquid; sweet sharp odor.</p>  |  |
| <b>SYNONYMS</b>        | Acrylic acid methyl ester, methyl-2-propenoate.   |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.<br/> Wear chemical-protective suit and self-contained breathing apparatus.<br/> Stay upwind.</p>  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/> Flashback along vapor trail may occur.<br/> Dangerous when heated to decomposition, it emits toxic fumes.<br/> Can react vigorously with oxidizing materials.<br/> Containers may explode when heated.<br/> Explosive when exposed to heat, sparks, or flame.<br/> Vapor may explode if ignited in an enclosed area.</p> <p>Severe eye and respiratory irritant.<br/> Absorbed by the skin.</p> <p>TLV 10 ppm in air; 35 mg/m<sup>3</sup> of air.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause dizziness or difficult breathing.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>67-56-1     | <p style="text-align: center;"><b>METHYL ALCOHOL</b></p> Colorless, watery liquid; alcohol odor.   |  |
| <b>SYNONYMS</b>        | Methanol, wood alcohol, wood naphtha, wood spirit, pyroxylic spirit.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>Vapor may explode if ignited in an enclosed area.<br/>Flashback along vapor trail may occur.<br/>Can react vigorously with oxidizing materials.<br/>Moderately explosive when exposed to heat.</p> <p>Toxic by ingestion (causes blindness).<br/>Narcotic.</p> <p>TLV 200 ppm in air; 262 mg per am<sup>3</sup> of air.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/><b>POISONOUS IF SWALLOWED.</b><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |


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|------------------------|---|---|
| CAS No.<br>100-84-9    | <p style="text-align: center;"><b>METHYL AMYL ACETATE</b></p> Colorless, watery liquid; pleasant fruity odor.   |  |
| <b>SYNONYMS</b>        | 4-methyl-2-pentanol acetate, MAAC, 4-methyl-2-pentyl acetate, hexyl acetate, methyl isobutyl carbinol acetate, sec-hexyl acetate.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>Mild irritant.<br/>Moderately toxic by ingestion or inhalation.</p> <p>TLV 50 ppm in air.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>54972-97-3  | <p style="text-align: center;"><b>METHYLAMYL ALCOHOL</b></p> Colorless, oily liquid; mild alcohol odor.  |  |
| <b>SYNONYMS</b>        | Isobutyl methyl carbinol, 4-methyl-2-pentanol, methyl isobutyl carbinol.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.  |   |
| <b>HAZARDS</b>         | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>Highly toxic by ingestion and inhalation.<br/>A strong irritant.<br/>High concentrations cause anesthesia.</p> <p>TLV 25 ppm in air; 100 mg/m<sup>3</sup> of air.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Harmful if skin is exposed.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|---|---|
| CAS No.<br>74-83-9 | METHYL BROMIDE<br>Colorless, liquefied gas; odorless to sweet odor.   |  |
| SYNONYMS           | Bromomethane, Embafume.   |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear goggles and self-contained breathing apparatus.<br/> Rubber or leather should not be used as they absorb methyl bromide.<br/> Equipment should not contain aluminum or magnesium parts.<br/> Stay upwind.</p>   |   |
| HAZARDS            | <p>Practically non-flammable.<br/> When heated to decomposition, emits highly toxic fumes of bromide.<br/> POISONOUS AND IRRITATING GASES ARE PRODUCED IN FIRE.</p> <p>Absorbed by the skin.<br/> Irritating to lungs.<br/> May cause death.<br/> Extreme irritant to skin.<br/> May produce severe burns.<br/> High concentrations can cause fatal pulmonary edema.</p> <p>TLV 4 ppm in air; 78 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/> POISONOUS IF INHALED.<br/> Irritating to eyes.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration (BUT NOT MOUTH-TO-MOUTH).<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> DO NOT RUB AFFECTED AREAS.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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| CAS No.<br>74-87-3     | <p style="text-align: center;"><b>METHYL CHLORIDE</b></p> Colorless, liquefied gas; odorless to sweet odor.  |  |
| <b>SYNONYMS</b>        | Chloromethane.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid or vapor.<br>Wear gas-tight goggles and self-contained breathing apparatus.<br>Equipment should be resistant to hydrochloric acid with no aluminum, zinc, or organomagnesium parts or alloys.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/> POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE.<br/> Flashback along vapor trail may occur.<br/> Vapor may explode if ignited in an enclosed area.<br/> Can react vigorously with oxidizing materials.</p> <p>Highly toxic by ingestion or inhalation.<br/> It has narcotic action.<br/> Can damage the central nervous system.</p> <p>TLV 100 ppm in air; 209 mg/m<sup>3</sup> of air.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/> Not irritating to eyes, nose or throat.<br/> If inhaled, will cause nausea, vomiting, headache, difficult breathing or loss of consciousness.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will cause frostbite.<br/> Flush affected areas with plenty of water.<br/> DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>78-93-3 | METHYL ETHYL KETONE<br>Colorless liquid; sweet odor.   |  |
| SYNONYMS           | 2-Butanone, MEK, ethylmethyl ketone.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable.<br/>Can react with oxidizing materials.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.</p> <p>Produces local mild irritation and narcosis.<br/>Moderately toxic by inhalation.</p> <p>TLV 200 ppm in air; 590 mg/m<sup>3</sup> of air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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|---------------------|--|---|
| CAS No.<br>108-10-1 | METHYL ISOBUTYL KETONE<br>Colorless, watery liquid; mild pleasant odor.  |  |
| SYNONYMS            | 4-methyl-2-pentanone, isobutyl methyl ketone, MIBK, Hexone, 2-pentanone isopropyl acetone.   |   |
| SAFETY MEASURES     | Avoid contact with liquid or vapor.<br>Wear goggles and self-contained breathing apparatus and full-protective clothing.<br>Stay upwind.   |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>May react vigorously with reducing materials.</p> <p>Highly toxic by ingestion or inhalation.<br/>May cause narcosis.<br/>Irritating to eyes and mucous membranes.</p> <p>TLV 100 ppm in air; 409 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>74-93-1 | METHYL MERCAPTAN<br>Liquid or gas.  |  |
| SYNONYMS           | Methanethiol.   |   |
| SAFETY<br>MEASURES |   |   |
| HAZARDS            | <p>Highly flammable.<br/>On decomposition it emits highly toxic fumes of oxides of sulfur.<br/>Will react with water, steam, or acids to produce toxic and flammable vapors.<br/>Can react vigorously with oxidizing materials.</p> <p>TLV 0.5 ppm.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |

|                    |   |   |
|--------------------|---|---|
| CAS No.<br>30-62-6 | METHYL METHACRYLATE   |  |
| SYNONYMS           | Methacrylic acid methyl ester.  |   |
| SAFETY MEASURES    | Avoid contact with liquid or vapor.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS            | Highly flammable.<br>Moderately explosive.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Can react with oxidizing materials.<br>Containers may explode when heated.<br><br>Irritant to eyes, skin and respiratory tract.<br>Toxic by ingestion or inhalation.<br><br>TLV 100 ppm.<br><br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.  |   |
| EXPOSURE           | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br>CALL FOR MEDICAL AID. |   |

|                     |  |   |
|---------------------|--|---|
| CAS No.<br>298-00-0 | METHYL PARATHION<br>White powder or as 80 <sup>0</sup> percent solution in xylene.   |  |
| SYNONYMS            | Methron, MPT, Paridol, Alkron, Nitran, Woltex.   |   |
| SAFETY MEASURES     | AVOID CONTACT WITH LIQUID.<br>Wear chemical-protective suit with self-contained breathing apparatus.   |   |
| HAZARDS             | Combustible.<br>POISONOUS GASES ARE PRODUCED IN FIRE AND WHEN HEATED.<br>Extremely flammable and explosive, prepared with xylene.<br>May explode in fire.<br>Can react with oxidizing materials.<br>Containers may explode in fire.<br><br>Highly toxic by ingestion, inhalation or skin absorption.<br>Short exposure may cause death or permanent injury.<br><br>See parathion.<br><br>TLV 10.2 mg/m <sup>3</sup> of air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. |   |
| EXPOSURE            | Liquid or Solid<br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID.                       |   |


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|------------------------|---|---|
|                        | <p align="center"><b>MINERAL SPIRITS</b></p> <p>Colorless, watery liquid; gasoline-like odor.</p>   |  |
| <b>SYNONYMS</b>        | Petroleum spirits; Mineral spirits, 360° end point.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.  |   |
| <b>HAZARDS</b>         | Combustible.<br>TLV 100 ppm.  |   |
| <b>EXPOSURE</b>        | <p>             Liquid<br/>             Irritating to skin and eyes.<br/>             Harmful if swallowed.<br/>             Remove contaminated clothing and shoes.<br/>             Flush affected areas with plenty of water.<br/>             IF IN EYES, hold eyelids open and flush with plenty of water.<br/>             IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>             DO NOT INDUCE VOMITING.           </p> <p align="center">CALL FOR MEDICAL AID.</p> |   |





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1313-27-5 | MOLYBDIC TRIOXIDE  |  |
| SYNONYMS             | Molybdenum trioxide, molybdenum anhydride, molybdic oxide, molybdic acid anhydride   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Molybdic compounds have mild irritant and slight chronic toxicity by inhalation.</p> <p>TLV 15 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |




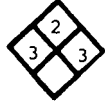


|                    |  |   |
|--------------------|--|---|
| CAS No.<br>75-04-7 | <p style="text-align: center;"><b>MONOETHYLAMINE</b></p> <p>Colorless, liquid; strong ammonia odor.</p>  |  |
| SYNONYMS           | Ethylamine, aminoethane.   |   |
| SAFETY MEASURES    | <p>Avoid contact with liquid.<br/>Wear full-protective clothing.</p>   |   |
| HAZARDS            | <p>Highly flammable.<br/>Dangerous when exposed to heat or flame.<br/>Flashback along vapor trail may occur.<br/>Can react vigorously with oxidizing materials.</p> <p>Highly toxic.<br/>Strong irritant to eyes, skin and respiratory tract.</p> <p>TLV 20 ppm in air; 46 mg/m<sup>3</sup> of air.</p>  |   |
| EXPOSURE           | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>If in eyes, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>78-96-6 | <p style="text-align: center;"><b>MONOISOPROPANOLAMINE</b></p> Colorless, thick liquid; slight ammonia odor.  |  |
| SYNONYMS           | Isopropanolamine, 1-amino-2-propanol, 2-hydroxypropylamine, MIPA, alpha-aminoisopropyl alcohol.   |   |
| SAFETY MEASURES    | Avoid contact with liquid.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS            | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>Irritant.<br/>Amines are generally caustic with moderate-to-high toxicity through ingestion or inhalation.</p>   |   |
| EXPOSURE           | <p><u>Liquid or Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


|                    |  |   |
|--------------------|--|---|
| CAS No.<br>74-89-5 | MONOMETHYLAMINE.   |  |
| SYNONYMS           | Amino methane, methylamine.  |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | <p>Highly flammable.<br/> Vapor forms explosive mixture with air.<br/> Explosive when exposed to heat or flame.<br/> Can react vigorously with oxidizing materials.<br/> Emits toxic fumes when heated to decomposition.</p> <p>A strong irritant.<br/> Corrosive to skin.</p> <p>TLV 10 ppm in air.</p> |   |
| EXPOSURE           |  |   |


|                     |   |   |
|---------------------|---|---|
| CAS No.<br>110-91-8 | MORPHOLINE<br>Colorless, oily liquid; fishy-ammonia odor.   |  |
| SYNONYMS            | Tetrahydro-1,4-oxazine, tetrahydro-p-oxazine, diethylenimide oxide.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Equipment should have no copper or copper alloy parts.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>When heated to decomposition, it emits highly toxic fumes of oxides of nitrogen.<br/>Can react with oxidizing materials.</p> <p>Corrosive to skin.<br/>Can be absorbed by the skin.<br/>Irritating to skin, eyes, and mucous membranes.</p> <p>TLV 20 ppm in air.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, headache or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|-----------------|--|---|
|                 | <p><b>MOTOR FUEL ANTINKNOCK COMPOUNDS WITH LEAD ALKYLs</b></p> <p>Oily liquid, dyed red, orange or blue; fruity odor.</p>  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>  |   |
| HAZARDS         | <p>Combustible.<br/>Container may explode when heated.<br/>POISONOUS GASES ARE PRODUCED IN FIRE.</p> <p>Vapors very toxic.<br/>Fatal lead poisoning may occur by ingestion, inhalation or skin absorption.</p>   |   |
| EXPOSURE        | <p>Liquid<br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |




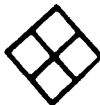
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|---------------------|--|---|
| CAS No.<br>300-76-5 | NALED  |  |
| SYNONYMS            | 1,2-dibromo-2,2-dichloroethyl dimethyl phosphate.                                |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>May be toxic.</p> <p>See parathion.</p> <p>TLV 3 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |


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|-----------------|--|---|
|                 | <p><b>NAPHTHA: COAL TAR TYPE</b></p> <p>Colorless-yellow watery liquid; gasoline-like odor.</p>  |  |
| SYNONYMS        | Naphtha, 49 <sup>0</sup> Re.   |   |
| SAFETY MEASURES | <p>Avoid contact with liquid or vapor.</p> <p>Stay upwind.</p>   |   |
| HAZARDS         | <p>Combustible.</p> <p>Can react with oxidizing materials.</p> <p>TLV 100 ppm in air.</p>  |   |
| EXPOSURE        | <p><u>Vapor</u></p> <p>Irritating to eyes, nose and throat.</p> <p>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.</p> <p>Move to fresh air.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>If swallowed, will cause nausea or vomiting.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|------------------------|--|---|
|                        | <p align="center"><b>NAPHTHA STODDARD SOLVENT</b></p> <p>Colorless, watery liquid; gasoline-like odor.</p>   |  |
| <b>SYNONYMS</b>        | Petroleum solvent, dry clear naphtha, spotting naphtha, white spirits, Varnoline, Safety solvent   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Flammable when exposed to heat or flame.<br>Explosive when exposed to flame.<br>When heated to decomposition, it emits acrid fumes.<br>Can react with oxidizing materials.<br><br>TLV 500 ppm.   |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>         Irritating to skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove contaminated clothing and shoes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>         DO NOT INDUCE VOMITING.</p> <p align="center">CALL FOR MEDICAL AID.</p> |   |

|                 |  |   |
|-----------------|--|---|
|                 | <p><b>NAPHTHA VM&amp;P</b></p> <p>Colorless, watery liquid; gasoline-like odor.</p>  |  |
| SYNONYMS        | 50 <sup>0</sup> Flash, High Flash, Regular grades.   |   |
| SAFETY MEASURES | <p>Avoid contact with liquid and vapor.</p> <p>Stay upwind.</p>  |   |
| HAZARDS         | <p>Highly flammable when exposed to heat or flame.</p> <p>Flashback along vapor trail may occur.</p> <p>Vapor may explode if ignited in an enclosed area.</p> <p>Explosive when exposed to heat or flame.</p> <p>Can react vigorously with oxidizing materials.</p>  |   |
| EXPOSURE        | <p><u>Vapor</u></p> <p>Irritating to eyes, nose and throat.</p> <p>If inhaled, will cause dizziness or loss of consciousness.</p> <p>Move to fresh air.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>If swallowed, will cause nausea and vomiting.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|---|---|
| CAS No.<br>91-20-3 | <p style="text-align: center;"><b>NAPHTHALENE</b></p> <p>Colorless molten solid; mothballs odor.</p>  |  |
| SYNONYMS           | Tar camphor, Mothflakes, Whitetar.  |   |
| SAFETY MEASURES    | <p>Avoid contact with liquid or solid.<br/>Wear goggles and self-contained breathing apparatus.</p>   |   |
| HAZARDS            | <p>Moderately flammable and explosive.<br/>Vapor forms explosive mixtures with air.<br/>Reacts with oxidizing materials.<br/>Dust can be explosive in air.</p> <p>Irritant.<br/>Moderately toxic by ingestion, inhalation, and skin absorption.</p> <p>TLV 10 ppm of air.</p> <p><b>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</b></p> |   |
| EXPOSURE           | <p><u>Solid or Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p><b>CALL FOR MEDICAL</b></p>  |   |

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|------------------------|---|---|
|                        | <p><b>NAPHTHENIC ACID(S)</b></p> <p>Odorless crystals to dark foul sludges.</p>   |  |
| <b>SYNONYMS</b>        | Hexahydrobenzoic acid, cyclohexane carbarylic acid, cyclo-alkyl fatty acid mixture.                                       |   |
| <b>SAFETY MEASURES</b> |   |   |
| <b>HAZARDS</b>         | <p>Flammable when exposed to flame.<br/>Can react with oxidizing materials.</p> <p>Moderate to high aquatic toxicity.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>  |   |


|                     |                                 |   |
|---------------------|---------------------------------|---|
| CAS No.<br>373-02-4 | NICKEL ACETATE<br>Green prisms. |  |
| SYNONYMS            |                                 |   |
| SAFETY<br>MEASURES  |                                 |   |
| HAZARDS             | See nickel compounds.           |   |
| EXPOSURE            | CALL FOR MEDICAL AID.           |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>27635-46-7 | NICKEL AMMONIUM SULFATE   |  |
| SYNONYMS              | Ammonium nickel sulfate, ammonium disulfatonickelate.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Flammable.<br/>Can release ammonia gas.</p> <p>Mild irritant and allergen.<br/>Slightly toxic by ingestion or inhalation.</p> <p>See nickel compounds and sulfates.</p> <p>TOXIC TO AQUATIC ORGANISMS IN LOW CONCENTRATIONS.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |




|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>13462-88-9 | <p style="text-align: center;">NICKEL BROMIDE</p> Yellowish-brown crystals. |  |
| SYNONYMS              | Nickelous bromide.  |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | See nickel compounds and bromides.  |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>                    |   |



|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7718-54-9 | <p style="text-align: center;"><b>NICKEL CHLORIDE</b></p> <p>Yellow scales or green crystals.</p>   |  |
| SYNONYMS             | Nickelous chloride.   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Nonflammable.<br/>When heated to decomposition, it emits toxic chlorides.</p> <p>Mild irritant and allergen.<br/>Slight toxic action.</p> <p>See nickel compounds and chlorides.</p> <p>TOXIC TO AQUATIC LIFE IN LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |

|                 |   |   |
|-----------------|---|---|
|                 | NICKEL COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Development of "nickel itch" dermatitis.<br/> Most salts of nickel are generally considered NOT to cause systemic poisoning.<br/> If ingested, will cause giddiness and nausea.<br/> Inhalation of dust may cause pneumonitis and pulmonary edema.<br/> TLV 1 mg/m<sup>3</sup> of air (for metal and insoluble compounds).</p> <p>TOXIC TO AQUATIC LIFE IN LOW CONCENTRATIONS.</p> |   |
| EXPOSURE        |   |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10028-13-9 | <p style="text-align: center;">NICKEL FLUORIDE</p> Green crystals. |  |
| SYNONYMS              | Nickel difluoride.   |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | See fluoride and nickel compounds.                                 |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>           |   |














|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>13138-45-9 | <p style="text-align: center;">NICKEL NITRATE</p> Green crystals.  |  |
| SYNONYMS              |  |   |
| SAFETY<br>MEASURES    |  |   |
| HAZARDS               | <p>Strong oxidizing agent.<br/> Dangerous fire hazard.<br/> Explosive as dust.<br/> May explode when shocked or heated.<br/> Increases flammability of any flammable substance.<br/> Yields gases of oxides of nitrogen in fire.</p> <p>Can cause intestinal damage.</p> <p>See nickel compounds and nitrates.</p> <p>TLV 1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE              |  |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>13637-71-3 | <p style="text-align: center;"><b>NICKEL PERCHLORATE</b></p> Hexagonal, green needles.  |  |
| SYNONYMS              |   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Powerful oxidizer.<br/>Is an explosive.<br/>When heated, emits highly toxic fumes of chlorides.</p> <p>Irritating to skin and mucous membranes.</p> <p>See nickel compounds.</p> |   |
| EXPOSURE              | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>  |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7786-81-4 | NICKEL SULFATE<br>Odorless pale green crystals.  |  |
| SYNONYMS             | Nickelous sulfate.   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Nonflammable.</p> <p>Slightly toxic by ingestion or inhalation as dust.<br/>Mild irritant and allergen.</p> <p>See nickel compounds.</p> <p>TLV 1 mg/m<sup>3</sup> of air.</p> <p>HAZARDOUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p>Solid</p> <p>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                 |  |   |
|-----------------|--|---|
|                 | NITRATES   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Moderately flammable by spontaneous chemical reaction.<br/> Powerful oxidizing agents.<br/> Nitrates may explode when shocked, when exposed to heat or flame, or by spontaneous chemical reaction.<br/> All inorganic nitrates act as oxygen carriers.<br/> On decomposition, they emit toxic fumes.<br/> Will cause violent reactions with reducing materials.</p> <p>If ingested, may lead to dizziness, abdominal cramps, vomiting, bloody diarrhea, weakness, convulsions and collapse.</p> |   |
| EXPOSURE        |  |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7697-37-2 | <p style="text-align: center;"><b>NITRIC ACID</b></p> <p>Colorless-brown watery liquid; choking odor.</p>   |  |
| SYNONYMS             | Aqua fortis, hydrogen nitrate, azotic acid.   |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear chemical-protective clothing and self-contained breathing apparatus.</p>   |   |
| HAZARDS              | <p>Moderately flammable by chemical reaction with reducing agents.<br/>Is a powerful oxidizing agent.<br/>Flammable gas may be formed in contact with metals.<br/>Poisonous gases are produced of oxides of nitrogen and hydrogen nitrate when heated.<br/>Will react with water or steam to produce heat and toxic and corrosive fumes.</p> <p>Corrosive to tissues.<br/>Highly toxic by ingestion, inhalation, and skin absorption.<br/>Ingestion causes burning of inner tissues, abdominal tenderness, shock and death.</p> <p>TLV 2 ppm in air or 5 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Will burn eyes, nose and throat.<br/>If inhaled, will cause difficult breathing and loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                 |  |   |
|-----------------|--|---|
|                 | NITRILES   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Nitriles are organic cyanides.<br/>         Acrylonitrile, propionitrile and others resemble cyanides in toxicity.<br/>         Cyanamides and cyanates have no cyanide effect.<br/>         When heated to decomposition, they emit highly toxic cyanide fumes.</p> <p>See cyanides.</p> |   |
| EXPOSURE        |  |   |


|                        |   |   |
|------------------------|---|---|
| CAS No.<br>93-95-3     | <p style="text-align: center;"><b>NITROBENZENE</b></p> Yellow-brown oily liquid; shoe polish odor.  |  |
| <b>SYNONYMS</b>        | Nitrobenzol, oil of mirbane.  |   |
| <b>SAFETY MEASURES</b> | <p>AVOID CONTACT WITH LIQUID.<br/>Wear chemical-protective suit with self-contained breathing apparatus.</p>  |   |
| <b>HAZARDS</b>         | <p>Flammable when exposed to heat or flame.<br/>POISONOUS VAPOR IS PRODUCED WHEN HEATED.<br/>Vapor forms explosive mixtures with air.</p> <p>Mild eye irritant.<br/>Fatal amounts may be taken by inhalation, ingestion, or skin absorption.</p> <p>TLV 1 ppm in air; 5 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

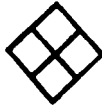
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|-----------------------|--|---|
| CAS No.<br>10102-44-0 | NITROGEN DIOXIDE   |  |
| SYNONYMS              | Nitrogen peroxide, nitrogen dioxide, red oxide of nitrogen, dinitrogen tetroxide.  |   |
| SAFETY MEASURES       | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br/> Equipment should be resistant to nitric acid corrosion.</p>  |   |
| HAZARDS               | <p>Non-flammable.<br/> May cause fire and explode with combustibles.<br/> POISONOUS GASES ARE PRODUCED IN FIRE AND WHEN HEATED.<br/> Will react with water or steam to produce corrosive liquids.<br/> Can react strongly with reducing materials.</p> <p>Highly toxic.<br/> Strong irritant.<br/> Inhalation may be fatal.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE              | <p><u>Vapor</u><br/> POISONOUS IF INHALED.<br/> Irritating to eyes.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> POISONOUS IF SWALLOWED.<br/> Will burn skin and eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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|-----------------|--|---|
|                 | NITROGEN OXIDES  |  |
| SYNONYMS        | Various mixtures of nitrogen oxides, dioxides, and trioxides.  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>When heated, they evolve highly toxic fumes.<br/> Will react with water or steam to produce heat and corrosive nitric acid.<br/> Can react vigorously with reducing materials.<br/> Concentrations of 100 to 150 ppm of nitrogen oxide fumes are dangerous for short exposures of 30 to 60 minutes.<br/> Higher concentrations may be fatal after very short exposures.</p> |   |
| EXPOSURE        |  |   |


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|------------------------|--|---|
| CAS No.<br>75-52-5     | <p style="text-align: center;"><b>NITROMETHANE</b></p> Colorless, watery liquid; strong odor.  |  |
| <b>SYNONYMS</b>        | Nitrocarbol.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with vapor.<br>Wear self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Flammable when exposed to heat or flame.<br/>Containers may explode when heated.<br/>Vapor may explode if ignited in an enclosed area.<br/>Dangerous, shock or heat will explode it.<br/>On decomposition, it emits highly toxic fumes of oxides of nitrogen.<br/>Can react with oxidizing materials.</p> <p>TLV 100 ppm in air; 250 mg/m<sup>3</sup> of air.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Harmful if swallowed.<br/>Flush affected areas with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>25154-55-6 | NITROPHENOL   |  |
| SYNONYMS              | para-Nitrophenol.   |   |
| SAFETY MEASURES       | Wear full protective clothing.  |   |
| HAZARDS               | <p>Flammable when exposed to heat or flame.<br/>POISONOUS FUMES OF OXIDES OF NITROGEN ARE PRODUCED WHEN HEATED.</p> <p>Highly toxic by ingestion, inhalation or skin absorption.<br/>Inhalation hazard only in association with heat.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |

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|----------------------|---|---|
| CAS No.<br>2696-92-6 | NITROSYL CHLORIDE<br>Orange-red, liquefied compressed gas; choking odor.  |  |
| SYNONYMS             | Nitrogen oxychloride.   |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br>Stay upwind.  |   |
| HAZARDS              | Non-flammable.<br>POISONOUS GASES ARE PRODUCED WHEN HEATED.<br><br>See chlorides and nitrogen oxides.<br><br><br><br><br><br><br><br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE             | Vapor<br>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br>Liquid<br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID. |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>28473-21-4 | <div data-bbox="723 316 834 351" data-label="Section-Header">NONANOL</div> <div data-bbox="495 371 959 404" data-label="Text">Colorless liquid; rose or fruity odor.</div>   |  |
| SYNONYMS              | 1-Nonanol, nonylalcohol, octyl carbinol.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | Combustible.   |   |
| EXPOSURE              | <div data-bbox="500 1289 1240 1389" data-label="Text"> <p>Liquid<br/>Harmful if swallowed.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> </div> <div data-bbox="500 1864 761 1886" data-label="Text"> <p>CALL FOR MEDICAL AID.</p> </div> |   |

|                        |  |   |
|------------------------|--|---|
| CAS No.<br>27215-95-8  | <p style="text-align: center;"><b>NONENE</b></p> Colorless, liquid; gasoline-like odor.  |  |
| <b>SYNONYMS</b>        | Propylene trimer.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Stay upwind.   |   |
| <b>HAZARDS</b>         | Flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br><br>Moderately toxic by inhalation.   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS No.<br>124-11-8 | 1-NONENE<br>Colorless liquid; gasoline-like odor.   |  |
| SYNONYMS            | 1-nonylene, n-heptyl ethylene.  |   |
| SAFETY MEASURES     | Avoid contact with liquid or vapor.<br>Stay upwind.   |   |
| HAZARDS             | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |











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|------------------------|--|---|
|                        | <p><b>OILS: CRUDE</b></p> <p>Dark oily liquid; acrid odor.</p>   |  |
| <b>SYNONYMS</b>        | Petroleum earth oil, seneca oil.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | <p>Combustible.<br/>Flammable vapor may be produced.</p> <p>HAZARDOUS TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Not irritating to eyes, nose and throat.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |



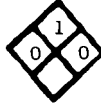






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|------------------------|---|---|
|                        | <b>OILS: MISCELLANEOUS, COAL TAR</b><br>Colorless to yellow liquid; pleasant odor.  |  |
| <b>SYNONYMS</b>        | Light oil.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.  |   |
| <b>EXPOSURE</b>        | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>Move to fresh air.<br><br><u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING. |   |
|                        | CALL FOR MEDICAL AID.   |   |


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|------------------------|--|---|
|                        | <b>OILS: MISCELLANEOUS, LUBRICATING</b><br>Yellow-brown, oily liquid; Lube oil odor.   |  |
| <b>SYNONYMS</b>        | Crankcase oil, Transmission oil, Motor oil.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |

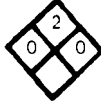



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|                        | <p><b>OILS: MISCELLANEOUS, MINERAL</b></p> <p>Odorless, colorless, oily liquid.</p>  |  |
| <b>SYNONYMS</b>        | White oil, Liquid petrolatum.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <p><u>Liquid</u><br/>           Irritating to skin and eyes.<br/>           Remove contaminated clothing and shoes.<br/>           Flush affected areas with plenty of water.<br/>           IF IN EYES, hold eyelids open and flush with plenty of water.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>           DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|--|---|
|                        | <p><b>OILS: MISCELLANEOUS, MINERAL SEAL</b></p> <p>Colorless-yellow oily liquid; kerosene odor.</p>  |  |
| <b>SYNONYMS</b>        | Longtime burning oil, 300° oil, Mineral colza oil, Signal oil.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <p>Liquid</p> <p>Irritating to skin and eyes.</p> <p>Harmful if swallowed.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|------------------------|--|---|
|                        | <b>OILS: MISCELLANEOUS, MOTOR</b><br>Yellow-brown oily liquid; lube oil odor.  |  |
| <b>SYNONYMS</b>        | Crankcase oil, lubricating oil.  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |

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|------------------------|--|---|
|                        | <b>OILS: MISCELLANEOUS, PENETRATING</b><br>Yellow oily liquid; motor oil odor.   |  |
| <b>SYNONYMS</b>        |  |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid.   |   |
| <b>HAZARDS</b>         | Combustible.   |   |
| <b>EXPOSURE</b>        | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


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|-----------------|---|---|
|                 | <p><b>OILS: MISCELLANEOUS, RANGE</b></p> <p>Colorless, watery liquid; kerosene odor.</p>  |  |
| SYNONYMS        | Kerosine, Kerosene, Fuel oil No. 1, JP-1.   |   |
| SAFETY MEASURES | Avoid contact with liquid.  |   |
| HAZARDS         | Combustible.  |   |
| EXPOSURE        | <p><u>Liquid</u><br/>           Irritating to skin and eyes.<br/>           Harmful if swallowed.<br/>           Remove contaminated clothing and shoes.<br/>           Flush affected areas with plenty of water.<br/>           IF IN EYES, hold eyelids open and flush with plenty of water.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>           DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

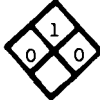
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|-----------------|--|---|
|                 | <p>OILS: MISCELLANEOUS, RESIN</p> <p>Amber-red-black liquid; pitch odor.</p>                     |  |
| SYNONYMS        | Rosin oil, Petinol, Rosinol, Codoil  |   |
| SAFETY MEASURES | Avoid contact with liquid.   |   |
| HAZARDS         | Combustible.   |   |
| EXPOSURE        | <p><u>Liquid</u><br/>Flush affected areas with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |










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|-----------------|--|---|
|                 | <p>OILS: MISCELLANEOUS, ROAD</p> <p>Black oily liquid; tar odor.</p>   |  |
| SYNONYMS        | Slow-curing asphalt, Petroleum asphalt, Liquid asphalt.  |   |
| SAFETY MEASURES | Avoid contact with liquid.   |   |
| HAZARDS         | Combustible.   |   |
| EXPOSURE        | <p>Liquid<br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                 |   |   |
|-----------------|---|---|
|                 | <p><b>OILS: MISCELLANEOUS, TRANSFORMER</b></p> <p>Colorless-brown oily liquid; motor oil odor.</p>  |  |
| SYNONYMS        | Insulating oil, electrical insulating oil, petroleum insulating oil.  |   |
| SAFETY MEASURES | Avoid contact with liquid.  |   |
| HAZARDS         | Combustible.  |   |
| EXPOSURE        | <p><u>Liquid</u><br/>           Irritating to skin and eyes.<br/>           Harmful if swallowed.<br/>           Remove contaminated clothing and shoes.<br/>           Flush affected areas with plenty of water.<br/>           IF IN EYES, hold eyelids open and flush with plenty of water.<br/>           IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>           DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|----------------------|--|---|
| CAS No.<br>8014-95-7 | OLEUM<br>Colorless-brown oily liquid; choking odor.  |  |
| SYNONYMS             | Fuming sulfuric acid.  |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID AND MIST.<br>Wear chemical-protective suit with self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS              | Dangerously flammable by chemical reaction with reducing agents and carbohydrates.<br>May cause fire on contact with combustibles.<br>Flammable gas may be produced on contact with metals.<br>Highly explosive by chemical reaction with moisture and some organics.<br>Will produce heat, toxic and corrosive fumes when reacting with water or steam.<br>When heated to decomposition, emits highly toxic fumes of oxides of sulfur.<br>TLV 1 mg/m <sup>3</sup> of air.   |   |
| EXPOSURE             | <p><u>Mist</u><br/>           Irritating to eyes, nose and throat.<br/>           If inhaled, will cause coughing or difficult breathing.<br/>           Move to fresh air.<br/>           If breathing has stopped, give artificial respiration (NOT MOUTH-TO-MOUTH).<br/>           If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>           Will burn skin and eyes.<br/>           Harmful if swallowed.<br/>           Remove contaminated clothing and shoes.<br/>           Flush affected areas with plenty of water.<br/>           IF IN EYES, hold eyelids open and flush with plenty of water.<br/>           IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk.<br/>           DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                 |   |   |
|-----------------|---|---|
|                 | OXALATES  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Oxalates are corrosive and produce local irritation. When taken by mouth they have a caustic effect on the mouth, esophagus and stomach.</p> <p>The soluble oxalates are readily absorbed from the gastrointestinal tract and can cause severe damage to the kidneys. When heated to decomposition, they emit toxic fumes.</p> |   |
| EXPOSURE        |   |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>144-62-7 | OXALIC ACID<br>Odorless, white solid crystals.   |  |
| SYNONYMS            | Ethanedioic acid.  |   |
| SAFETY MEASURES     | Avoid contact with solid and dust.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).  |   |
| HAZARDS             | Combustible solid.<br>Poisonous gases are produced in fire.<br>Strong irritant.<br>Highly toxic by ingestion or inhalation.<br>If swallowed, death may follow quickly.<br><br>TLV 1 mg/m <sup>3</sup> of air.<br><br><br><br><br><br><br><br><br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.   |   |
| EXPOSURE            | <u>Dust</u><br>Will burn eyes, nose and throat.<br>If inhaled, will cause difficult breathing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Solid</u><br>Will burn skin and eyes.<br>If swallowed, will cause nausea or loss of consciousness.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br><br><br><br><br><br>CALL FOR MEDICAL AID. |   |





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|------------------------|--|---|
| CAS No.<br>56-33-2     | <p style="text-align: center;"><b>PARATHION</b></p> Yellowish liquid.  |  |
| <b>SYNONYMS</b>        | O,o-diethyl-O-nitrophenyl thiophosphate.   |   |
| <b>SAFETY MEASURES</b> | <p>AVOID ALL CONTACT.</p> <p>Wear chemical-protective clothing, self-contained breathing apparatus, and gloves.</p>  |   |
| <b>HAZARDS</b>         | <p>Non-flammable unless in solvent.</p> <p>When heated to decomposition, can emit additional toxic fumes of oxides of nitrogen, phosphorus and sulfur.</p> <p>Readily absorbed by the skin.</p> <p>May cause death or permanent injury after short exposure to small quantities.</p> <p>Toxic by ingestion, inhalation, or skin absorption.</p> <p>TLV 0.1 ppm.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u></p> <p>If inhaled, may cause blurred vision, nausea, general weakness, and difficulty in breathing.</p> <p>Move to fresh air.</p> <p>GIVE VICTIM TWO ATROPINE TABLETS <u>AT ONCE</u>. DO NOT WAIT FOR DOCTOR.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u></p> <p>Contact with skin may cause blurred vision, nausea, general weakness and difficulty in breathing.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>GIVE VICTIM TWO ATROPINE TABLETS <u>AT ONCE</u>. DO NOT WAIT FOR DOCTOR.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                    |  |   |
|--------------------|--|---|
| CAS No.<br>87-86-5 | PENTACHLOROPHENOL<br>White to brown beads or flakes.   |  |
| SYNONYMS           | Penta, Santophen 20, Dowicide 7.   |   |
| SAFETY MEASURES    | Avoid contact with dust and solid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS            | Not flammable.<br>When heated to decomposition, it emits highly toxic fumes of chlorides.<br><br>Strong irritant.<br>Highly toxic by all routes.<br>Can be absorbed by the skin.<br>Dust can cause convulsions or death.<br>Can damage lungs, liver and kidneys.<br><br>TLV 0.5 milligrams per cubic meter of air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE           | <u>Dust</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause coughing or difficult breathing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Solid</u><br>POISONOUS IF SWALLOWED.<br>Will burn skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |




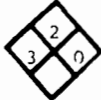
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| CAS No.<br>2765-11-9 | PENTADECANOL<br>Colorless liquid; alcohol odor.  |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      | Avoid contact with liquid.   |   |
| HAZARDS              | Combustible.<br><br>May be inhalative hazard.<br><br><br><br><br><br><br><br><br><br>HARMFUL TO FISH AND WATERFOWL.  |   |
| EXPOSURE             | <u>Liquid</u><br>Irritating to skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID. |   |


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|---------------------|---|---|
| CAS No.<br>109-66-0 | <p style="text-align: center;"><b>PENTANE</b></p> <p>Colorless liquid; gasoline odor.</p>   |  |
| SYNONYMS            | Amyl Hydride  |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid and vapor.<br/>Stay upwind.</p>  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Containers may explode when heated.<br/>Vapor may explode if ignited in an enclosed area.<br/>Flammable vapor is produced.<br/>Highly explosive when exposed to heat or flame.</p> <p>May be narcotic in high concentrations.<br/>Slight inhalation hazard.</p> <p>TLV 500 ppm in air.</p>                                    |   |
| EXPOSURE            | <p><u>Vapor</u><br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Harmful if swallowed.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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|---------------------|--|---|
| CAS No.<br>109-67-1 | 1-PENTENE<br>Colorless liquid; gasoline odor.  |  |
| SYNONYMS            | Amylene, propylethylene, alpha-n-amylene, methyl butene.   |   |
| SAFETY MEASURES     | Avoid contact with vapor.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable when exposed to heat or flame.<br/> Explosive when exposed to flame.<br/> Flashback along vapor trail may occur.<br/> Containers may explode when heated.<br/> Vapor may explode if ignited in an enclosed area.<br/> Flammable vapor is produced.<br/> May react with oxidizing materials.<br/> When heated to decomposition, it emits toxic fumes.</p> <p>Moderately hazardous via all routes.<br/> Can be absorbed by the skin.<br/> Narcotic in high concentrations.</p> <p>TLV 1000 ppm in air, 2950 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE            | <p><u>Vapor</u><br/> If inhaled, will cause dizziness.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Harmful if swallowed.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

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|-----------------|---|---|
|                 | <p>PETROLATUM</p> <p>Thick liquid; brown, green, amber, white.</p>  |  |
| SYNONYMS        | Petroleum jelly.  |   |
| SAFETY MEASURES | Avoid contact with liquid.  |   |
| HAZARDS         | Combustible.  |   |
| EXPOSURE        | <p><u>Liquid</u><br/> Irritating to eyes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|-----------------|---|---|
|                 | <p>PETROLEUM NAPHTHA</p> <p>Colorless liquid; gasoline-like odor.</p>   |  |
| SYNONYMS        | <p>Petroleum solvent, petroleum spirit, petroleum benzine, light ligroin, petroleum ether.</p>  |   |
| SAFETY MEASURES | <p>Avoid contact with liquid or vapor.<br/>Stay upwind.</p>   |   |
| HAZARDS         | <p>Flammable, volatile liquid.<br/>Explosive when exposed to heat or flame.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.</p>  |   |
| EXPOSURE        | <p><u>Vapor</u><br/>Not irritating to eyes, nose and throat.<br/>If inhaled, may cause dizziness or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|---|---|
| CAS No.<br>108-95-2 | PHENOL  |  |
| SYNONYMS            | Carbolic acid, hydroxybenzene, phenic acid, phenylic acid.  |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID AND SOLID.<br/> Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br/> Equipment should not have exposed rubber, aluminum, zinc, lead, or alloy parts.</p>   |   |
| HAZARDS             | <p>Combustible.<br/> POISONOUS GASES ARE PRODUCED IN FIRE.<br/> Fumes may react with oxidizing materials.</p> <p>POISONOUS.<br/> Causes severe tissue burns.<br/> Lethal amounts may be ingested, inhaled or absorbed by the skin.</p> <p>TLV 5 ppm in air (skin absorption).</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE            | <p>Liquid or Solid<br/> POISONOUS IF SWALLOWED.<br/> Will burn skin and eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|----------------------|---|---|
| CAS No.<br>7786-34-7 | <p style="text-align: center;">PHOSDRIN</p> Crystals.   |  |
| SYNONYMS             | 2-carbomethoxy-1-methyl vinyl dimethylphosphate, Mevinphos.   |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Non-flammable.<br/>When heated to decomposition, emits highly toxic fumes.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/>Small doses of phosdrin can cause death or permanent injury.</p> <p>See parathion.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             |   |   |








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|------------------------|---|---|
| CAS No.<br>7803-51-2   | <p style="text-align: center;"><b>PHOSPHINE</b></p> Colorless gas.  |  |
| <b>SYNONYMS</b>        | Hydrogen phosphide, phosphoretted hydrogen.   |   |
| <b>SAFETY MEASURES</b> | Wear goggles, full protective clothing, and self-contained breathing apparatus.   |   |
| <b>HAZARDS</b>         | <p>Flammable by spontaneous chemical reaction.<br/> Explosive when exposed to flame.<br/> When heated to decomposition, emits highly toxic fumes of oxides of phosphorus.<br/> Reacts vigorously with oxidizing materials.</p> <p>Highly toxic gas.<br/> Strong irritant.</p> <p>TLV 0.05 ppm in air.</p> |   |
| <b>EXPOSURE</b>        | <p>Inhalation of phosphine causes restlessness followed by tremors, fatigue, nausea, vomiting, frequently severe gastric pain and diarrhea, often headache, thirst, and dizziness.</p> <p>CALL FOR MEDICAL AID.</p>   |   |


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|----------------------|---|---|
| CAS No.<br>7664-33-2 | PHOSPHORIC ACID   |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID.<br>Wear chemical-protective suit with self-contained breathing apparatus.  |   |
| HAZARDS              | Non-flammable.<br>Flammable gas is formed on contact with metals.<br>When heated to decomposition, emits toxic fumes of oxides of phosphorus.<br>TLV 1 mg/m <sup>3</sup> of air.<br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.   |   |
| EXPOSURE             | Liquid<br>Will burn skin and eyes.<br>If swallowed, will cause nausea, vomiting or loss of consciousness.<br>Remove contaminated clothing and shoes.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


|                 |   |   |
|-----------------|---|---|
|                 | PHOSPHORUS COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Toxicity varies.<br/> Most inorganic phosphates, except phosphine, have low toxicity but in large doses they may cause serious disturbances.</p> |   |
| EXPOSURE        |   |   |

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|------------------------|--|---|
| CAS No.<br>10025-87-3  | <p style="text-align: center;"><b>PHOSPHORUS OXYCHLORIDE</b></p> Colorless-yellow oily liquid; musty odor.   |  |
| <b>SYNONYMS</b>        | Phosphoryl chloride.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Wear chemical-protective suit and self-contained breathing apparatus.<br>Equipment must be acid-resistant.   |   |
| <b>HAZARDS</b>         | <p>Non-flammable corrosive liquid.<br/>         When heated to decomposition, emits highly toxic fumes of chlorides and oxides of phosphorus.<br/>         Will react violently with water to produce heat and toxic and corrosive fumes.</p> <p>Inhalation may cause pulmonary edema.<br/>         Highly toxic by ingestion or inhalation.</p> <p>See hydrochloric acid.</p> <p style="text-align: center;">DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>         Irritating to eyes, nose and throat.<br/>         Harmful if inhaled.<br/>         Move to fresh air.<br/>         If breathing has stopped, give artificial respiration.<br/>         If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>         Will burn skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove to fresh air.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>         DO NOT INDUCE VOMITING.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |


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|-----------------------|--|---|
| CAS No.<br>10026-13-8 | PHOSPHORUS PENTACHLORIDE<br>Yellowish-white, fuming crystalline mass.  |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | Moderate fire hazard by chemical reaction.<br>Reacts violently with moisture.<br>When heated to decomposition, emits highly toxic fumes of chlorides.<br>Will react with water or steam to produce heat and toxic, corrosive fumes.<br>TLV 1 mg/m <sup>3</sup> of air. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.  |   |


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|----------------------|---|---|
| CAS No.<br>7647-19-0 | <p>PHOSPHORUS PENTAFLUORIDE</p> <p>Colorless gas.</p>   |  |
| SYNONYMS             |   |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Non-flammable.<br/>Dangerous when heated to decomposition, it emits highly toxic fumes of fluorine and phosphorus compounds.<br/>Will react with water or steam to produce toxic and corrosive fumes.</p> <p>Highly toxic.<br/>Strong irritant to eyes and skin.</p> <p>See fluorides.</p> <p>TLV 1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |


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|----------------------|---|---|
| CAS No.<br>1314-80-3 | <p style="text-align: center;">PHOSPHORUS PENTASULFIDE</p> Yellow-green flakes or powder; odorless  |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      | Avoid contact with solid and dust.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS              | <p>Highly flammable.<br/>MAY BE IGNITED BY SPARK, FRICTION OR STATIC DISCHARGE.<br/>Containers may explode in fire.<br/>POISONOUS, IRRITATING GASES ARE PRODUCED IN FIRE.<br/>Will react with water, steam or acids to produce toxic and flammable vapors.<br/>Can react vigorously with oxidizing materials.</p> <p>TLV 1 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Dust</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>7723-14-0 | <p style="text-align: center;"><b>PHOSPHORUS, RED</b></p> <p>Odorless red-brown solid powder.</p>  |  |
| SYNONYMS             | Amorphous phosphorus.  |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH SOLID.<br/>Wear rubber overclothing (including gloves).</p>  |   |
| HAZARDS              | <p>Highly flammable when exposed to heat or by chemical reaction with oxidizers.<br/>POISONOUS, IRRITATING AND FLAMMABLE GASES ARE PRODUCED IN FIRE.<br/>Explosive by chemical reaction or on contact with organic compounds.<br/>Reacts with oxygen and water vapor to emit phosphine.<br/>When heated to decomposition, emits highly toxic fumes of oxides of phosphorus.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p>Solid<br/>Will burn eyes.<br/>Harmful if swallowed.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

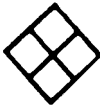


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| CAS No.<br>7719-12-2 | <p style="text-align: center;">PHOSPHORUS TRICHLORIDE</p> Colorless to yellow liquid; irritating odor.   |  |
| SYNONYMS             | Phosphorus chloride.   |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>   |   |
| HAZARDS              | <p>Non-flammable.<br/>Moderate danger through chemical reactions.<br/>When heated to decomposition, emits toxic fumes of chlorides and oxides of phosphorus.<br/>Will react with water, steam or acids to produce heat and toxic or corrosive fumes.<br/>Will react violently when brought into contact with water causing flash fires.</p> <p>Highly irritating and corrosive to skin and mucous membranes.</p> <p>TLV 0.5 ppm in air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Poisonous if swallowed.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>7723-14-0 | <p style="text-align: center;">PHOSPHORUS, WHITE</p> Yellow waxy solid; garlic odor.  |  |
| SYNONYMS             | Yellow phosphorus.  |   |
| SAFETY MEASURES      | Avoid contact with solid.<br>Wear rubber clothing (including gloves) and self-contained breathing apparatus.  |   |
| HAZARDS              | <p>Highly flammable.<br/>May ignite on contact with air.<br/>POISONOUS, IRRITATING GASES OF OXIDES OF PHOSPHORUS ARE PRODUCED IN FIRE.<br/>Reacts vigorously with oxidizing materials.</p> <p>Vapors of burning phosphorus may cause severe injury or death.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Solid</u><br/>Will burn skin and eyes.<br/>If swallowed, will cause nausea, vomiting or loss of consciousness.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|--|---|
| CAS No.<br>85-44-9 | <b>PHthalic ANHYDRIDE</b><br>Colorless-yellow flakes or liquid; choking odor.  |  |
| SYNONYMS           | PAN, phthalic acid anhydride, phthalandione.   |   |
| SAFETY MEASURES    | Avoid contact with liquid.<br>Wear rubber overclothing (including gloves).   |   |
| HAZARDS            | Flammable.<br>Reacts with oxidizing materials.<br>Explosive in the form of dust when exposed to flame.<br>When heated, emits acrid fumes.<br><br>Mild irritant.<br>Slight ingestive and inhalative hazard.<br>Will cause acid burns with moist skin.<br><br>TLV 2 ppm in air.  |   |
| EXPOSURE           | <u>Dust</u><br>Irritating to eyes, nose and throat.<br>If inhaled will cause coughing.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid or Solid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |

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|----------------------|--|---|
| CAS No.<br>9003-29-6 | POLYBUTENE<br>Colorless, odorless oily liquid. |  |
| SYNONYMS             | Polyisobutylene waxes, butene resins.          |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Combustible.                                   |   |
| EXPOSURE             | Not harmful.                                   |   |

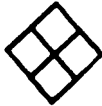
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|                 | <p>POLYCHLORINATED BIPHENYLS</p> <p>White powder or yellow oily liquid.</p>   |  |
| SYNONYMS        | PCB, chlorinated biphenyl, Arochlor.  |   |
| SAFETY MEASURES | Avoid contact with liquid and solid.  |   |
| HAZARDS         | <p>Combustible.<br/>When heated to decomposition, emits toxic vapors.</p> <p>Strong irritant.<br/>Highly toxic by ingestion, inhalation, or skin absorption.<br/>Causes liver damage and skin changes.</p> <p>TLV 0.5 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE        | <p><u>Liquid or Solid</u><br/>Irritating to eyes and skin.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>  |   |







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| CAS No.<br>7784-41-0 | POTASSIUM ARSENATE<br>Colorless crystals.  |  |
| SYNONYMS             | Potassium dihydrogen arsenate, Macquer's salt.   |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>When heated to decomposition or on contact with acids or acid fumes, emits highly toxic fumes of arsenic.</p> <p>Highly toxic by ingestion and inhalation.<br/>Strong irritant.</p> <p>See arsenic compounds.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |




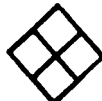
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| CAS No.<br>10124-50-2 | POTASSIUM ARSENITE<br>White powder.   |  |
| SYNONYMS              |   |   |
| SAFETY<br>MEASURES    |   |   |
| HAZARDS               | <p>Highly toxic by ingestion and inhalation.<br/>Strong irritant.</p> <p>See arsenic compounds.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |


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|----------------------|---|---|
| CAS No.<br>7773-50-9 | POTASSIUM BICHROMATE<br>Odorless, red-to-orange crystals.   |  |
| SYNONYMS             | Potassium dichromate, bichrome red, potassium chromate.   |   |
| SAFETY MEASURES      | Avoid contact with solid and dust.  |   |
| HAZARDS              | <p>Non-flammable.<br/>May cause fire on contact with combustibles or oxidizing materials.<br/>Powerful oxidizer.</p> <p>Highly toxic by ingestion or inhalation.<br/>Chromium compounds have been associated with cancer of the lungs.<br/>Direct contact will cause destruction of the mucous membranes.</p> <p>See chromium compounds and dichromates.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Dust</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solids</u><br/>Will burn skin and eyes.<br/>If swallowed, will cause nausea, vomiting, or loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |




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|---------------------|--|---|
| CAS No.<br>151-50-8 | POTASSIUM CYANIDE<br>White crystals; almond odor.  |  |
| SYNONYMS            |  |   |
| SAFETY MEASURES     | AVOID CONTACT WITH DUST, SOLID AND WATER SOLUTION.<br>Wear chemical-protective suit and self-contained breathing apparatus.  |   |
| HAZARDS             | Non-flammable.<br>On contact with acids, releases highly flammable and poisonous gas of HYDROGEN CYANIDE.<br><br>Extremely poisonous.<br>Toxic by ingestion or inhalation.<br>Hydrogen cyanide gas is toxic by all routes.<br><br>TLV 5 mg/m <sup>3</sup> of air.<br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATION.  |   |
| EXPOSURE            | <u>Dust</u><br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Solid</u><br>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br>Irritating to eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br><br>CALL FOR MEDICAL AID. |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1310-58-3 | <p style="text-align: center;"><b>POTASSIUM HYDROXIDE</b></p> Odorless, white crystals or watery liquid.  |  |
| SYNONYMS             | Potassium hydrate, lye.   |   |
| SAFETY MEASURES      | Avoid contact with liquid, solid, vapor and dust.<br>Wear rubber overclothing (including gloves).<br>Breathing apparatus must be worn in closed quarters or high concentrations.  |   |
| HAZARDS              | <p>Non-flammable.<br/> May cause fire on contact with moisture and flammables.<br/> Flammable hydrogen gas can be produced on contact with metals.</p> <p>Inhalation of dust or mist can damage respiratory tract extensively and may be fatal.<br/> Severe eye hazard.<br/> Solid or liquid destroys tissue on contact.<br/> Highly poisonous by ingestion or inhalation.</p> <p>TLV 2 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p><u>Dust of Mist</u><br/> Irritating to eyes, nose and throat.<br/> Harmful if inhaled.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/> DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7681-11-0 | POTASSIUM IODIDE<br>Odorless white crystals.   |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | Non-flammable.<br>Emits toxic iodides when heated to decomposition.<br><br>Moderate ingestive and inhalative hazard.<br><br>See iodides.   |   |
| EXPOSURE             | <u>Solid</u><br>Harmful if swallowed.<br>Flush affected areas with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br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| CAS No.<br>7722-64-7 | POTASSIUM PERMANGANATE<br>Odorless dark purple crystals.   |  |
| SYNONYMS             | Chameleon-mineral.   |   |
| SAFETY MEASURES      | Avoid contact with solid and dust.   |   |
| HAZARDS              | Non-flammable.<br>Containers may explode in fire.<br>May cause fire and explode on contact with combustibles.<br>Reacts violently with easily oxidized substances.<br>Powerful oxidizing agent.<br>Spontaneously flammable on contact with glycerine and ethylene glycol.<br><br>Strong irritant in high concentrations.<br>Highly toxic by ingestion and inhalation.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.   |   |
| EXPOSURE             | Solid<br>Irritating to skin and eyes.<br>If swallowed, will cause nausea, vomiting, or loss of consciousness.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.<br><br>CALL FOR MEDICAL AID. |   |


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|--------------------|--|---|
| CAS No.<br>74-98-6 | PROPANE<br>Colorless liquefied compressed gas.   |  |
| SYNONYMS           | Dimethyl methane.  |   |
| SAFETY MEASURES    | Stay upwind.   |   |
| HAZARDS            | <p>Highly flammable.<br/>Containers may explode in fire.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.</p> <p>Narcotic in high concentrations.</p> <p>TLV 1000 ppm.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Not irritating to eyes, nose, and throat.<br/>If inhaled, will cause dizziness, difficult breathing, or loss of consciousness.<br/>Move victim to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>May cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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|------------------------|--|---|
| CAS No.<br>123-38-6    | <p style="text-align: center;"><b>PROPIONALDEHYDE</b></p> Colorless liquid; suffocating odor.  |  |
| <b>SYNONYMS</b>        | Propyl aldehyde, propionic aldehyde, methyl acetaldehyde, propanal, propylic aldehyde.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.  |   |
| <b>HAZARDS</b>         | <p>Highly flammable.<br/>         Flashback along vapor trail may occur.<br/>         Vapor may explode if ignited in an enclosed area.<br/>         Flammable irritating vapor is produced when in contact with water.<br/>         Reacts with oxidizing agents.</p> <p>Irritant.<br/>         Moderate hazard through inhalation and skin absorption.</p>   |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>         Irritating to eyes, nose, and throat.<br/>         If inhaled, will cause nausea or vomiting.<br/>         Move to fresh air.<br/>         If breathing has stopped, give artificial respiration.<br/>         If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>         Irritating to skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove contaminated clothing and shoes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                    |   |   |
|--------------------|---|---|
| CAS No.<br>79-09-4 | <b>PROPIONIC ACID</b><br>Colorless liquid; sharp rancid odor.   |  |
| SYNONYMS           | Propanoic acid, ethanecarboxylic acid, methyl acetic acid.  |   |
| SAFETY MEASURES    | AVOID CONTACT WITH LIQUID AND VAPOR.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS            | Combustible at high temperatures or pressures.<br>When heated, emits acrid fumes.<br><br>Severe eye and skin irritant.<br>Slight ingestive hazard.<br>Low toxicity.<br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.  |   |
| EXPOSURE           | <u>Vapor</u><br>Irritating to eyes, nose, and throat.<br>Move to fresh air.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |

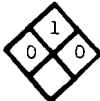
|                     |  |   |
|---------------------|--|---|
| CAS No.<br>123-62-6 | <p style="text-align: center;">PROPIONIC ANHYDRIDE</p> Propanoic anhydride.  |  |
| SYNONYMS            |  |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>Combustible liquid.<br/> Vapor forms explosive mixtures with air.<br/> May react with oxidizing materials.<br/> Reacts with water to form propionic acid.</p> <p>Irritant.<br/> Slight ingestive toxicity.</p> <p>See propionic acid.</p> |   |
| EXPOSURE            | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>   |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>109-60-4 | N-PROPYL ACETATE<br>Colorless liquid; mild odor.  |  |
| SYNONYMS            | Acetic acid n-propyl ester.   |   |
| SAFETY MEASURES     | Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing materials.</p> <p>Narcotic in high concentrations.<br/>Irritating to skin and mucous membranes.<br/>Moderately toxic via all routes.<br/>Can be absorbed by the skin.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, dizziness, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                    |   |   |
|--------------------|---|---|
| CAS No.<br>71-23-3 | N-PROPYL ALCOHOL<br>Colorless liquid; alcohol odor.   |  |
| SYNONYMS           | 1-propanol.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS            | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Reacts vigorously with oxidizing agents.<br/>Flammable irritating vapor is produced when mixed with water.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, dizziness, or headache.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink plenty of water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|---------------------|--|---|
| CAS no.<br>115-07-1 | <b>PROPYLENE</b><br>Colorless liquefied compressed gas; mild odor.   |  |
| SYNONYMS            | Propene, methylethylene.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Stay upwind.   |   |
| HAZARDS             | Highly flammable.<br>Flashback along vapor trail may occur.<br>Flammable, visible vapor cloud is produced when mixed with water.<br>May explode if ignited in an enclosed area.<br>Containers may explode in fire.<br>Reacts vigorously with oxidizing materials.<br><br>Simple asphyxiant.<br>No irritating effects from high concentrations in gaseous forms.<br><br>TLV 2-11% in air. |   |
| EXPOSURE            | <u>Vapor</u><br>If inhaled, will cause dizziness or loss of consciousness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will cause frostbite.<br>Flush affected areas with plenty of water.<br>DO NOT RUB AFFECTED AREAS.<br><br><br>CALL FOR MEDICAL AID.                         |   |

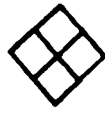


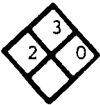
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| CAS No.<br>57-55-6 | <b>PROPYLENE GLYCOL</b><br>Odorless, colorless thick liquid.   |  |
| SYNONYMS           | 1,2-propanediol, 1,2-dihydroxypropane, methylene glycol, methyl glycol.  |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | Flammable.<br>Explosive when exposed to flame.<br>May react with oxidizing materials.<br><br>Mild irritant.<br>Allergen.<br>Slight ingestive hazard.<br>Slight local irritant. |   |
| EXPOSURE           |  |   |

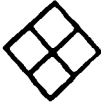




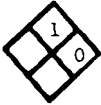
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| CAS No.<br>75-56-9 | <p align="center"><b>PROPYLENE OXIDE</b></p> <p>Colorless liquid; sweet alcohol odor.</p>   |  |
| SYNONYMS           | Methyloxirane, propeneoxide, 1,2-epoxypropane.  |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>   |   |
| HAZARDS            | <p>Highly flammable.<br/>Flammable irritating vapor is produced when mixed with water.<br/>Containers may explode in fire.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Highly explosive when exposed to flame.<br/>May react vigorously with oxidizing materials.</p> <p>Moderately hazardous by all routes.</p> <p>TLV 100 ppm in air; 240 mg/m<sup>3</sup> of air.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause headache, nausea, vomiting, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

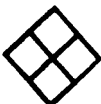
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| CAS no.<br>121-29-9 | <b>PYRETHRINS</b><br>Viscous liquid.  |  |
| SYNONYMS            | Pyrethrolone, ester of chrysanthemum, monocarborylic acids, Pyrethrin I or Pyrethrin II.              |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | Slight fire hazard.<br>Emits acrid fumes when heated.<br>Pyrethrin II is less toxic than Pyrethrin I. |   |
| EXPOSURE            |   |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>110-86-1 | <b>PYRIDINE</b><br>Colorless to yellow liquid; nauseating odor.   |  |
| SYNONYMS            |   |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear chemical-protective suit with self-contained breathing apparatus.<br/> Stay upwind.</p>   |   |
| HAZARDS             | <p>Highly flammable.<br/> Flashback along vapor trail may occur.<br/> Vapor may explode if ignited in an enclosed area.<br/> EMITS HIGHLY TOXIC FUMES OF CYANIDES.<br/> Reacts vigorously with oxidizing materials.</p> <p>Mild irritant.<br/> Moderate ingestive hazard.<br/> Slight inhalative hazard.<br/> Can cause liver and kidney damage.</p> <p>TLV 5 ppm in air; 15 mg/m<sup>3</sup> of air.</p> <p> DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/> Poisonous if inhaled or if skin is exposed.<br/> Irritating to eyes, nose and throat.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Poisonous if swallowed or if skin is exposed.<br/> Will burn eyes.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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|--------------------|---|---|
| CAS No.<br>37-66-1 | <p style="text-align: center;">PYROGALLIC ACID</p> <p>White lustrous crystals.</p>  |  |
| SYNONYMS           | Pyrogallol, trihydroxybenzene, 1,2,3-benzetriol.  |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Emits highly toxic fumes when heated.</p> <p>Highly toxic.<br/>Readily absorbed by the skin.<br/>If swallowed, will cause vomiting, diarrhea, kidney and liver damage.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |





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|---------------------|---|---|
| CAS No.<br>108-46-3 | <p style="text-align: center;"><b>RESORCINOL</b></p> White crystals; turn pink on exposure to light.  |  |
| SYNONYMS            | Resorcin, 1,3-benzenediol, m-dihydroxybenzene, 3-hydroxyphenol.   |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | <p>Flammable when exposed to heat or flame.<br/>Can react with oxidizing materials.</p> <p>Skin irritant.<br/>Can cause systemic poisoning.<br/>Hazardous to eyes.<br/>Can be absorbed by the skin if in a solvent.<br/>Can cause dermatitis.</p> |   |
| EXPOSURE            | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>  |   |


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|----------------------|---|---|
| CAS No.<br>7783-08-6 | <div> <div>SELENIC ACID</div> <div>Colorless, hexagonal prisms.</div> </div>  |  |
| SYNONYMS             | Selenious acid.   |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Flammable in form of dust when exposed to heat or flame.<br/>Flammable by chemical reaction with oxidizers.</p> <p>Highly toxic.<br/>Strong irritant to skin and membranes.</p> <p>See selenium compounds.</p> <p>TLV 0.2 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |




|                 |   |   |
|-----------------|---|---|
|                 | SELENIUM COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Elemental selenium has low acute systemic toxicity, but dust or fumes can cause serious irritation of the respiratory tract. It is a suspected carcinogen.</p> <p>Hydrogen selenide is highly toxic and selenium oxychloride produces blisters.</p> <p>Some organoselenium compounds are highly toxic.</p> <p>Inorganic selenium compounds can cause dermatitis.</p> |   |
| EXPOSURE        |   |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>12640-39-9 | <div data-bbox="698 327 913 362" data-label="Section-Header"> SELENIUM OXIDE </div> <div data-bbox="530 382 959 413" data-label="Text"> White-to-reddish powder or needles. </div> |  |
| SYNONYMS              | Selenium dioxide, selenous acid anhydride, selenous anhydride.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Highly toxic by inhalation.<br/>Moderately toxic by ingestion and skin absorption.</p> <p>See selenium compounds.</p> <p>TLV 2 mg/m<sup>3</sup> of air.</p>                     |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |


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|----------------------|--|---|
| CAS no.<br>7791-23-3 | SELENIUM OXYCHLORIDE<br>Colorless to yellowish liquid. |  |
| SYNONYMS             | Seleninyl chloride.                                    |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | See selenium compounds and chlorides.                  |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                                  |   |

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|------------------------|--|---|
| CAS no.<br>7761-88-8   | <b>SILVER NITRATE</b><br>Odorless, colorless-to-grayish black crystals.  |  |
| <b>SYNONYMS</b>        | Lunar caustic.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with dust and solid.<br>Wear chemical-protective clothing and self-contained breathing apparatus.<br>Wear goggles.   |   |
| <b>HAZARDS</b>         | Non-flammable.<br>Increases flammability of combustible materials.<br><br>Powerful caustic.<br>Toxic by ingestion or inhalation.<br>Ingestion may cause death.<br><br>TLV 0.01 mg/m <sup>3</sup> of air.<br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.                          |   |
| <b>EXPOSURE</b>        | <u>Solids</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br>CALL FOR MEDICAL AID. |   |


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|----------------------|---|---|
| CAS No.<br>7440-23-5 | <div style="text-align: center;">SODIUM</div> Odorless, silver to grayish-white soft solid.   |  |
| SYNONYMS             | Natrium.  |   |
| SAFETY<br>MEASURES   | AVOID CONTACT WITH SOLID.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).   |   |
| HAZARDS              | <p>             Highly flammable.<br/>             FIRE MAY START ON CONTACT WITH AIR.<br/>             Flammable gas formed on contact with water or moisture.<br/>             Highly explosive when exposed to moisture in any form.<br/>             Evolves hydrogen when it decomposes.<br/>             Emits toxic fumes when heated in air.           </p> <p>Caustic to all tissues.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p> <u>Solid</u><br/>             Will burn skin and eyes.<br/>             Remove contaminated clothing and shoes.<br/>             Flush affected areas with plenty of water.<br/>             IF IN EYES, hold eyelids open and flush with plenty of water.           </p> <p>CALL FOR MEDICAL AID.</p>  |   |







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| CAS No.<br>7782-92-5 | SODIUM AMIDE<br>Odorless, colorless solid.   |  |
| SYNONYMS             | Sodamide.  |   |
| SAFETY MEASURES      | Avoid contact with liquid.<br>Wear rubber overclothing (including gloves).   |   |
| HAZARDS              | Highly flammable.<br>POISONOUS GAS IS PRODUCED IN FIRE.<br>Reacts violently with water.<br>In the presence of moisture, liberates sodium hydroxide and ammonia.<br>When heated to decomposition, emits highly toxic fumes of ammonia and sodium oxide.<br>Can react with oxidizing materials.<br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS. |   |
| EXPOSURE             | Solid<br>Will burn skin and eyes.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.  |   |




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|----------------------|--|---|
| CAS No.<br>7631-39-2 | SODIUM ARSENATE<br>Colorless crystals.   |  |
| SYNONYMS             |  |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              | <p>Non-flammable.<br/>Emits toxic vapors when heated or in contact with acid or acid fumes.</p> <p>Irritant and allergen.<br/>Highly toxic by ingestion or inhalation.</p> <p>See arsenic compounds.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


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|-----------------------|---|---|
| CAS No.<br>14060-38-9 | SODIUM ARSENITE<br>Colorless or grayish-white powder.               |  |
| SYNONYMS              | Sodium meta arsenite.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | Highly toxic by ingestion and inhalation.<br>See arsenic compounds. |   |
| EXPOSURE              | CALL FOR MEDICAL AID:   |   |


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|------------------------|---|--|
| CAS No.<br>10588-01-9  | <p style="text-align: center;"><b>SODIUM BICHROMATE</b></p> Odorless red-to-orange crystals.  |  |
| <b>SYNONYMS</b>        | Sodium dichromate.  |  |
| <b>SAFETY MEASURES</b> | Avoid contact with solid and dust.  |  |
| <b>HAZARDS</b>         | <p>Non-flammable.<br/>May cause fire on contact with combustibles.<br/>When heated to decomposition, emits toxic vapors.</p> <p>Strong irritant.<br/>Highly toxic by ingestion or inhalation.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>   |  |
| <b>EXPOSURE</b>        | <p><u>Dust</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Will burn skin and eyes.<br/>If swallowed, will cause nausea and vomiting.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |  |

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|----------------------|--|---|
| CAS No.<br>1333-83-1 | SODIUM BIFLUORIDE<br>White powder.   |  |
| SYNONYMS             | Sodium acid fluoride, sodium difluoride.   |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Highly toxic.<br/>Strong irritant to tissues.</p> <p>See fluorides and hydrofluoric acid.</p> <p>TLV 2.5 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


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|------------------------|---|---|
| CAS No.<br>7631-90-5   | <p style="text-align: center;"><b>SODIUM BISULFITE</b></p> White powder or granules; irritating odor.   |  |
| <b>SYNONYMS</b>        | Sodium acid sulfite, sodium metabisulfite, sodium hydrogen sulfite.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with solid and dust.  |   |
| <b>HAZARDS</b>         | <p>Non-flammable.<br/>When heated to decomposition, emits toxic vapors.<br/>Can react with water, steam, or acids to produce corrosive and toxic materials.</p> <p>Moderately toxic by ingestion and inhalation.</p> <p>See sulfites.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>   |   |
| <b>EXPOSURE</b>        | <p><u>Dust</u><br/>Harmful if inhaled.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |





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|-----------------------|---|---|
| CAS No.<br>16940-66-2 | SODIUM BOROHYDRIDE<br>Odorless, white powder or pellets.  |  |
| SYNONYMS              | Borohydride.  |   |
| SAFETY MEASURES       | Avoid contact with solid and dust.<br>Wear rubber overclothing (including gloves) and dust respirator.  |   |
| HAZARDS               | Combustible.<br>Flammable and explosive gas may be produced on contact with metals, acids, or when heated.<br>Will react with water or steam to produce hydrogen and sodium hydroxide.  |   |
| EXPOSURE              | <u>Dust</u><br>Harmful if inhaled.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen<br><br><u>Solid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed or if skin is exposed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |


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|---------------------|--|---|
| CAS No.<br>124-65-2 | SODIUM CACODYLATE<br>White, amorphous powder.  |  |
| SYNONYMS            | Sodium dimethyl arsenate, arsysodila.  |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | Highly toxic by ingestion and inhalation.<br>See arsenic compounds and cacodylic acid. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.  |   |





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| CAS No.<br>7775-09-9 | <p style="text-align: center;"><b>SODIUM CHLORATE</b></p> <p>Odorless, colorless-to-pale yellow crystals.</p>  |  |
| SYNONYMS             | Chlorate of soda, soda chlorate.   |   |
| SAFETY MEASURES      | <p>Avoid contact with solid.<br/>Do not use leather shoes or gloves.<br/>Avoid greases or ointments which may form explosive mixtures with chlorates.</p>  |   |
| HAZARDS              | <p>Non-flammable.<br/>CONTAINERS MAY EXPLODE IN FIRE.<br/>May cause fire on contact with combustibles.<br/>When heated to decomposition, emits toxic vapors.<br/>May cause explosions in presence of other materials.</p> <p>Mild irritant.<br/>Moderately toxic by ingestion or inhalation.</p> <p>See chlorates.</p> <p><br/>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>   |   |
| EXPOSURE             | <p>Solid<br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p><br/>CALL FOR MEDICAL AID.</p> |   |


|                 |  |   |
|-----------------|--|---|
|                 | SODIUM COMPOUNDS   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Toxicity is variable.<br/> Sodium ion is practically nontoxic.<br/> The toxicity of sodium compounds is frequently, though not always, due to the anion involved.<br/> The hydroxide is very corrosive, being strongly basic.</p> |   |
| EXPOSURE        |  |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>143-33-9 | <p style="text-align: center;"><b>SODIUM CYANIDE</b></p> White granules, flakes or lumps; almond odor.   |  |
| SYNONYMS            |  |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH SOLID, DUST, AND SOLUTION.<br/>Wear chemical-protective suit with self-contained breathing apparatus.<br/>No smoking or eating allowed near discharge site because of potential of hydrogen cyanide vapors.</p>  |   |
| HAZARDS             | <p>Non-flammable.<br/>Releases highly hazardous cyanides when heated to decomposition or on contact with acid or acid fumes.</p> <p>Highly poisonous.</p> <p>TLV 0.5 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Dust</u><br/>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Solid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>13601-19-9 | SODIUM FERROCYANIDE<br>Odorless, yellow solid.   |  |
| SYNONYMS              | Yellow prussate of soda.   |   |
| SAFETY MEASURES       | Avoid contact with solid.  |   |
| HAZARDS               | <p>Non-flammable.<br/>Emits highly poisonous hydrogen cyanide on contact with acid or when heated to decomposition.</p> <p>Mild irritant.</p>  |   |
| EXPOSURE              | <p>Solid<br/>Harmful if swallowed.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7631-49-4 | SODIUM FLUORIDE<br>Odorless white or tinted blue crystals or powder.  |  |
| SYNONYMS             | Villiaumite.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Non-flammable.<br>Emits highly toxic vapors when heated to decomposition or on contact with acid.<br><br>Highly toxic by ingestion or inhalation.<br>Strong irritant.<br><br>TLV 2.5 mg/m <sup>3</sup> of air.<br><br><br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS. |   |
| EXPOSURE             | Solid<br>Poisonous if swallowed.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br><br><br><br><br><br><br><br><br>CALL FOR MEDICAL AID.   |   |

|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7646-69-7 | <p style="text-align: center;">SODIUM HYDRIDE</p> Gray powder in oil; kerosene odor.  |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      | Avoid contact with discharged material.<br>Wear rubber overclothing (including gloves).   |   |
| HAZARDS              | <p>Highly flammable.<br/>MAY EXPLODE ON CONTACT WITH WATER.<br/>Flammable hydrogen gas is produced on contact with water.<br/>Will react with oxidizing agents.<br/>When heated to decomposition, emits highly toxic fumes of oxides of sodium.</p> <p>Highly toxic.</p> <p>See sodium hydroxide.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>              |   |
| EXPOSURE             | <p><u>Solid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>16721-80-5  | <p style="text-align: center;"><b>SODIUM HYDROSULFIDE</b></p> Colorless needles.   |  |
| <b>SYNONYMS</b>        | Sodium bisulfide, sodium sulfhydrate, sodium hydrogen sulfide.   |   |
| <b>SAFETY MEASURES</b> |  |   |
| <b>HAZARDS</b>         | <p>Moderate fire hazard when exposed to flame.<br/> Hydrogen sulfide is released upon contact with acids or moisture.<br/> When heated to decomposition, emits highly toxic fumes of oxides of sulfur.</p> <p>Skin irritant.<br/> Corrosive and irritant through release of hydrogen sulfide if ingested.</p> <p>See sulfides.</p> |   |
| <b>EXPOSURE</b>        | <p>CALL FOR MEDICAL AID.</p>   |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>1310-73-2   | <p style="text-align: center;"><b>SODIUM HYDROXIDE</b></p> Odorless, white flakes or pellets.  |  |
| <b>SYNONYMS</b>        | Lye, caustic soda, white caustic sodium hydrate.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with solid and dust.<br>Wear rubber overclothing (including gloves).<br>Equipment should not be made of soft iron, copper, tin, aluminum, zinc, or alloys.   |   |
| <b>HAZARDS</b>         | <p>Non-flammable.<br/>         May cause fire on contact with combustibles.<br/>         Flammable gas may be produced on contact with metals.<br/>         Will react with water or steam to produce heat.<br/>         Emits toxic dusts when heated to decomposition.</p> <p>Severe eye hazard.<br/>         Solid or concentrated solution destroys tissue on contact.<br/>         Inhalation of dust may seriously affect lungs.<br/>         Will attack living tissues.</p> <p>TLV 2 mg/m<sup>3</sup> of air.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>  |   |
| <b>EXPOSURE</b>        | <p><u>Dust</u><br/>         Irritating to eyes, nose and throat.<br/>         Move to fresh air.<br/>         If breathing has stopped, give artificial respiration.<br/>         If breathing is difficult, give oxygen.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p><u>Solid</u><br/>         Will burn skin and eyes.<br/>         Harmful if swallowed.<br/>         Remove contaminated clothing and shoes.<br/>         Flush affected areas with plenty of water.<br/>         IF IN EYES, hold eyelids open and flush with plenty of water.<br/>         IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>         DO NOT INDUCE VOMITING.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |





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|----------------------|---|---|
| CAS No.<br>7631-52-9 | <p style="text-align: center;">SODIUM HYPOCHLORITE</p> Green to yellow liquid; bleach odor.   |  |
| SYNONYMS             | Clorox, liquid bleach.  |   |
| SAFETY MEASURES      | Avoid contact with liquid.  |   |
| HAZARDS              | <p>Non-flammable.<br/> Flammable on contact with organic materials or reducing agents.<br/> Powerful oxidizer at higher temperatures: chlorine, then oxygen are evolved.<br/> Will react with water or steam to produce toxic or corrosive fumes.<br/> When in contact with acid or acid fumes, emits highly toxic fumes of chlorine and chlorides.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p>Liquid<br/> Irritating to skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |




|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7632-00-0 | <p style="text-align: center;"><b>SODIUM NITRITE</b></p> White or yellowish crystals, sticks or powder.   |  |
| SYNONYMS             | Diazotring salts, erintrit, soda niter, nitratine.  |   |
| SAFETY<br>MEASURES   |   |   |
| HAZARDS              | <p>Violent combustion or explosion when in contact with easily oxidizable substances.<br/> Will ignite by friction when in contact with organic matter.<br/> Explodes when heated to temperature of 1000° F or in contact with cyanides.<br/> Yields toxic gaseous oxides of nitrogen when involved in fire.</p> <p>Highly toxic by ingestion or inhalation.</p> <p>See nitrites.</p> |   |
| EXPOSURE             | <p style="text-align: center;">CALL FOR MEDICAL AID.</p>  |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7553-79-4 | SODIUM PHOSPHATE, DIBASIC  |  |
| SYNONYMS             | Disodium hydrogen phosphate, DSP, disodium phosphate, disodium orthophosphate.                 |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Non-flammable.<br/>Emits toxic fumes when heated to decomposition.</p> <p>Low toxicity.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7558-80-7 | SODIUM PHOSPHATE, MONOBASIC   |  |
| SYNONYMS             | Sodium acid phosphate, sodium biphosphate, sodium orthophosphate, MSP, sodium dihydrogen phosphate, monosodium phosphate. |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Non-flammable.<br>Low toxicity.   |   |
| EXPOSURE             | CALL FOR MEDICAL AID.   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7601-54-9 | SODIUM PHOSPHATE, TRIBASIC  |  |
| SYNONYMS             | TSP, trisodium orthophosphate, trisodium phosphate, tertiary sodium phosphate.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Non-flammable.<br/>When heated to decomposition, emits highly toxic fumes of oxides of phosphorus.</p> <p>A strong caustic material.<br/>Moderately toxic by ingestion.<br/>Irritating to tissues.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10102-18-3 | SODIUM SELENITE<br>White crystals.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Flammable in form of dust when exposed to heat or flame or by chemical reaction with oxidizers.<br/>Dust effects respiratory system.<br/>Emits toxic dusts when heated to decomposition.</p> <p>Highly toxic by ingestion.<br/>Moderately toxic by all routes.<br/>Can be absorbed by the skin.</p> <p>See selenium compounds.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE              |   |   |







|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1313-82-2 | <p style="text-align: center;"><b>SODIUM SULFIDE</b></p> Yellow to red flakes; rotten eggs odor.  |  |
| SYNONYMS             | Sodium monosulfide, sodium sulfuret.  |   |
| SAFETY MEASURES      | Avoid contact with solid and dust.<br>WEAR GOGGLES, SELF-CONTAINED BREATHING APPARATUS AND RUBBER OVERCLOTHING (INCLUDING GLOVES).  |   |
| HAZARDS              | <p>Combustible.<br/>POISONOUS HYDROGEN SULFIDE GAS MAY BE PRODUCED IN FIRE.<br/>Flammable, poisonous gas is formed on contact with acids, water, or steam.<br/>Reacts violently with oxidizing materials.<br/>May explode upon rapid heating and shock.</p> <p>Liberates toxic hydrogen sulfide gas on contact with skin.<br/>Irritant.</p> <p>See hydrogen sulfide.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p><u>Dust</u><br/>Irritating to eyes, nose, and throat.<br/>Move to fresh air.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p><u>Solid</u><br/>Harmful if swallowed.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p>   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10579-83-6 | <p style="text-align: center;">SODIUM SULFITE</p> Colorless, odorless solid.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Non-flammable.<br/>When heated to decomposition, emits toxic vapors of sulfur dioxide.<br/>Can react with water, steam or acid to produce toxic and corrosive material.</p> <p>Moderately toxic by ingestion or inhalation.<br/>Ingestion can irritate the stomach by producing sulfurous acid.<br/>See sulfites.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p> |   |
| EXPOSURE              | <p><u>Solid</u><br/>If swallowed, may cause loss of consciousness.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

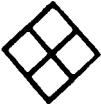





|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7789-06-2 | STRONTIUM CHROMATE<br>Yellow crystals.   |  |
| SYNONYMS             | Strontium dichromate.  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Highly corrosive on contact with skin and tissues.</p> <p>See chromium compounds.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>57-24-9 | STRYCHNINE<br>Hard white crystalline alkaloid.  |  |
| SYNONYMS           |   |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Dangerous, when heated to decomposition, it emits highly toxic fumes.</p> <p>Allergen.<br/>Highly toxic by ingestion or inhalation.</p> <p>TLV 0.15 mg/m<sup>3</sup> of air.</p>       |   |
| EXPOSURE           | <p>Solid<br/>IF SWALLOWED, HIGHLY POISONOUS.<br/>Do not give water as this increases the solubility and absorption by the stomach and intestine.</p> <p>CALL FOR MEDICAL AID AT ONCE.</p> |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>100-42-5 | <b>STYRENE</b><br>Colorless to yellow liquid; sweet odor.  |  |
| SYNONYMS            | Phenylethylene, styrol, vinylbenzene, polystyrene, cinnamene.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear chemical-protective suit with self-contained breathing apparatus.   |   |
| HAZARDS             | Highly flammable.<br>CONTAINERS MAY EXPLODE IN FIRE.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Flammable, irritating vapor is produced on contact with water.<br>Reacts vigorously with oxidizing materials.<br>When heated to decomposition, emits acrid fumes.<br><br>Severe eye injuries.<br>Respiratory irritant.<br>Moderately toxic by ingestion or inhalation.<br><br>TLV 100 ppm in air.<br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE            | <u>Vapor</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause loss of consciousness.<br>Move to fresh air.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br><br>CALL FOR MEDICAL AID. |   |


|                 |  |   |
|-----------------|--|---|
|                 | SULFATES   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Toxicity is variable.<br/>           Dangerous when heated to decomposition, they emit highly toxic fumes of sulfur oxides.</p> |   |
| EXPOSURE        |  |   |

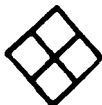



|                 |  |   |
|-----------------|--|---|
|                 | SULFIDES.  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Toxicity is variable.</p> <p>The alkaline sulfides (potassium, ammonium, calcium and sodium) cause softening and irritation of the skin.</p> <p>If taken by mouth they are corrosive and irritant through the liberation of hydrogen sulfide and free alkali.</p> <p>Hydrogen sulfide is especially toxic.</p> <p>Sulfides of the heavy metals are generally insoluble, hence, have little toxic action except through the liberation of hydrogen sulfide.</p> <p>When heated to decomposition, emit highly toxic fumes of oxides of sulfur.</p> <p>React with water, steam or acids to produce toxic and flammable vapors of hydrogen sulfide.</p> |   |
| EXPOSURE        |  |   |

|                 |   |   |
|-----------------|---|---|
|                 | SULFITES  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Fairly large doses of sulfites can be tolerated since they are rapidly oxidized to sulfates, although, if swallowed they may cause irritation of the stomach by liberating sulfurous acid.</p> <p>When heated to decomposition, emit highly toxic fumes of sulfur dioxide.</p> <p>Will react with water, steam or acids to produce a toxic and corrosive material.</p> |   |
| EXPOSURE        |   |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>126-33-0 | SULFOLANE<br>Colorless oily liquid; weak oily odor.  |  |
| SYNONYMS            | Tetrahydrothiophene-1,1-dioxide, tetramethylene sulfone.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS             | Combustible.<br>POISONOUS GASES ARE PRODUCED IN FIRE.  |   |
| EXPOSURE            | <u>Liquid</u><br>Not irritating to skin.<br>Harmful if swallowed.<br>Irritating to eyes.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, do nothing except keep victim warm.<br><br>CALL FOR MEDICAL AID. |   |

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|----------------------|--|---|
| CAS No.<br>7704-34-9 | <b>SULFUR (LIQUID)</b><br>Yellow to brown to gray liquid; rotten egg odor.   |  |
| SYNONYMS             | Brimstone, flowers of sulfur, sulfur flour.  |   |
| SAFETY MEASURES      | Avoid contact with liquid and solid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS              | Combustible.<br>POISONOUS GAS IS PRODUCED IN FIRE.<br>Hazardous on contact with oxidizing materials.<br>Vapor forms explosive mixtures in air.<br>Low health hazard if no fire involvement.<br><br>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.   |   |
| EXPOSURE             | Liquid<br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br><br>CALL FOR MEDICAL AID. |   |


|                 |   |   |
|-----------------|---|---|
|                 | SULFUR COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Toxicity variable.<br/> When heated to decomposition, can evolve highly toxic fumes containing oxides of sulfur.</p> |   |
| EXPOSURE        |   |   |


|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7446-09-5 | <p style="text-align: center;"><b>SULFUR DIOXIDE</b></p> Colorless, liquefied gas; irritating odor.   |  |
| SYNONYMS             | Sulfurous acid anhydride.   |   |
| SAFETY MEASURES      | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.  |   |
| HAZARDS              | <p>Non-flammable.<br/> In moist air or fogs it combines with water to form sulfurous acid which very slowly oxidizes to sulfuric acid.</p> <p>Highly toxic.<br/> Dangerous to the eyes and respiratory tract.<br/> Corrosive and poisonous.<br/> Excessive exposure can be fatal.<br/> Strong irritant.</p> <p>TLV 5 ppm in air; 13 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p><u>Vapor</u><br/> <b>POISONOUS IF INHALED.</b><br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will cause frostbite.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p>      |   |





|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7664-93-9 | <b>SULFURIC ACID</b><br>Colorless, odorless oily liquid   |  |
| SYNONYMS             | Oil of vitriol, dipping acid, fertilizer acid, battery acid, hydrogen sulfate.  |   |
| SAFETY MEASURES      | AVOID CONTACT WITH LIQUID.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing.  |   |
| HAZARDS              | Non-flammable.<br>May cause fire on contact with combustibles.<br>Flammable gas may be produced on contact with metals.<br>Mixes violently with water; irritating mist is produced.<br>Can react with oxidizing or reducing materials.<br>POISONOUS GAS MAY BE PRODUCED IN FIRE.<br><br>Contact with body results in rapid destruction of tissues causing severe burns.<br><br>TLV 1 mg/m <sup>3</sup> of air.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.   |   |
| EXPOSURE             | <u>Mist</u><br>Irritating to eyes, nose and throat.<br>If inhaled, will cause coughing, difficult breathing or loss of consciousness.<br>Move to fresh air.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br><u>Liquid</u><br>Will burn skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br>CALL FOR MEDICAL AID. |   |

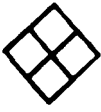



|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7791-25-5 | <p style="text-align: center;"><b>SULFURYL CHLORIDE</b></p> Colorless to yellow liquid; acrid odor.   |  |
| SYNONYMS             | Sulfuric chloride, chlorosulfuric acid, sulfonyl chloride, sulfuric oxychloride.  |   |
| SAFETY MEASURES      | Avoid contact with liquid and gas.<br>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).  |   |
| HAZARDS              | Non-flammable.<br>Flammable gas may be produced on contact with metals.<br>When heated to decomposition, emits highly toxic fumes of chlorides and oxides of sulfur.<br>Mixes and reacts violently with water producing sulfuric acid and poisonous gas of hydrogen chloride.<br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE             | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause coughing, difficult breathing, or loss of consciousness.<br/>Move to fresh air.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>If breathing is difficult, give artificial respiration.<br/>If breathing has stopped, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                    |  |   |
|--------------------|--|---|
| CAS No.<br>93-76-5 | 2,4,5-T ACID<br>Crystals; light tan solid.   |  |
| SYNONYMS           | 2,4,5-trichlorophenoxyacetic acid.   |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | <p>When heated to decomposition, it emits highly toxic fumes of chlorides.</p> <p>Highly toxic.<br/>Possible liver and kidney damage.</p> <p>See chlorides.</p> <p>TLV 10 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>   |   |


|                 |   |   |
|-----------------|---|---|
|                 | <p>2,4,5-T ESTERS</p> <p>2,4,5-trichlorophenoxyacetic esters.</p> |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         |   |   |
| EXPOSURE        | <p>CALL FOR MEDICAL AID.</p>                                      |   |

|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1401-55-4 | <div data-bbox="723 329 892 369" data-label="Section-Header">TANNIC ACID</div> <div data-bbox="522 387 1073 420" data-label="Text">Yellowish-white, brown bulky powder or flakes.</div> |  |
| SYNONYMS             | Tannin, gallotannic acid.   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Slightly flammable when exposed to heat or flame.<br>Mild irritant.<br>Toxic by ingestion or inhalation.  |   |
| EXPOSURE             | <div data-bbox="525 1869 783 1897" data-label="Text">CALL FOR MEDICAL AID.</div>  |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>27013-25-3 | TDE<br>Crystals.  |  |
| SYNONYMS              | DDD, tetrachlorodiphenyl ethane, 1,1-dichloro-2,2-bis(p-Chloro-phenyl)ethane.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>When heated to decomposition, emits highly toxic fumes of chlorides.</p> <p>Toxic by ingestion, inhalation, and skin absorption.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |


|                        |  |   |
|------------------------|--|---|
| CAS No.<br>127-18-4    | <p style="text-align: center;"><b>TETRACHLOROETHYLENE</b></p> Colorless, watery liquid; sweet odor.  |  |
| <b>SYNONYMS</b>        | Tetracap, Perclene, perchloroethylene carbon dichloride, ethylene tetrachloride.   |   |
| <b>SAFETY MEASURES</b> | Avoid contact with liquid and vapor.<br>Wear chemical-protective clothing and self-contained breathing apparatus.  |   |
| <b>HAZARDS</b>         | <p>Non-flammable.<br/>Poisonous gases of chlorides are produced when heated.<br/>Irritating vapor is produced when mixed with water.</p> <p>Highly toxic by ingestion and inhalation.<br/>Acts as an anesthetic.<br/>Moderately toxic through skin absorption.</p> <p>TLV 100 ppm in air.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |





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| CAS No.<br>1120-36-1 | 1-TETRADECENE<br>Colorless liquid; mild pleasant odor.  |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Combustible.<br/>May react with oxidizing materials.</p> <p>Probably irritant and narcotic in high concentrations.</p>                   |   |
| EXPOSURE             | <p><u>Liquid</u><br/>Irritating to eyes.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

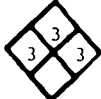



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| CAS No.<br>73-00-2 | TETRAETHYL LEAD<br>Colorless oily liquid; fruity odor.  |  |
| SYNONYMS           | TEL, lead tetraethyl.   |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br/>Stay upwind.</p>  |   |
| HAZARDS            | <p>Combustible.<br/>POISONOUS GASES OF LEAD ARE PRODUCED IN FIRE.<br/>Containers may explode in fire.<br/>Vapor may explode if ignited in an enclosed area.<br/>Can react with oxidizing materials.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/>A cumulative poison.</p> <p>TLV 0.075 mg/m<sup>3</sup> of air.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE           | <p><u>Vapor</u><br/>POISONOUS IF INHALED OR IF SKIN IS EXPOSED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>107-49-3 | TETRAETHYL PYROPHOSPHATE<br>White to amber, hygroscopic liquid.  |  |
| SYNONYMS            | TEPP, Fosvex, Hesamite, Nifos, TEP, Tetron, Vamptone.  |   |
| SAFETY MEASURES     |  |   |
| HAZARDS             | <p>WHEN HEATED TO DECOMPOSITION, EMITS HIGHLY TOXIC FUMES.</p> <p>Highly toxic by ingestion, inhalation, or skin absorption.</p> <p>See parathion as toxic actions are similar.</p> <p>TLV 0.05 mg/m<sup>3</sup> of air; 0.004 ppm by skin absorption.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |


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| CAS No.<br>109-99-9 | <p style="text-align: center;"><b>TETRAHYDROFURAN</b></p> Colorless liquid; faint fruity odor.  |  |
| SYNONYMS            | Cyclotetramethylene oxide, diethylene oxide, THF.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Flammable, irritating vapor is produced when mixed with water.<br/>Can react with oxidizing materials.<br/>When heated to decomposition, emits toxic fumes.<br/>Forms thermally explosive peroxides on exposure to air.</p> <p>Irritating to eyes and mucous membranes.<br/>Narcotic in high concentrations.</p> <p>TLV 200 ppm.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, headache or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>119-64-2 | TETRAHYDRONAPHTHALENE<br>Colorless liquid; moldy turpentine odor.   |  |
| SYNONYMS            | Tetralin, Tetranap.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.  |   |
| HAZARDS             | <p>Flammable.<br/>Can react with oxidizing materials.</p> <p>Narcotic in high concentrations.<br/>Irritating to skin, eyes, and mucous membranes.<br/>Hazardous by ingestion or inhalation.<br/>Reported as causing cataracts.</p>  |   |
| EXPOSURE            | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>75-74-1 | <p style="text-align: center;"><b>TETRAMETHYL LEAD</b></p> Colorless oily liquid; fruity odor.  |  |
| SYNONYMS           | Lead Tetramethyl.   |   |
| SAFETY MEASURES    | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/>Stay upwind.</p>   |   |
| HAZARDS            | <p>Flammable.<br/>Containers may explode in fire.<br/>Vapor may explode if ignited in an enclosed area.<br/>Explosive in the form of vapor when exposed to flame.<br/>When heated to decomposition, emits highly toxic fumes of lead.<br/>Poisonous, flammable vapor is produced when mixed with water.<br/>Reacts vigorously with oxidizing materials.</p> <p>Powerful poison.<br/>Highly toxic by all routes.<br/>Fatal lead poisoning may occur by ingestion, inhalation, or skin absorption.</p> <p>TLV 0.150 mg/m<sup>3</sup> by skin absorption.</p>          |   |
| EXPOSURE           | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.<br/>Will burn eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>7550-45-0 | <p style="text-align: center;"><b>TITANIUM TETRACHLORIDE</b></p> <p>Colorless to yellow liquid; irritating odor.</p>  |  |
| SYNONYMS             | Titanic chloride.   |   |
| SAFETY MEASURES      | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/> Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).<br/> Equipment should be acid-resistant.</p>  |   |
| HAZARDS              | <p>Non-flammable.<br/> Reacts violently with water.<br/> Produces dense fumes in air.<br/> Highly corrosive because it liberates heat and hydrochloric acid upon contact with moisture.<br/> If spilled on skin, wipe off with dry clothing before applying water.</p> <p>Highly toxic.<br/> Irritates skin, eyes, and respiratory tract.</p> <p>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</p>  |   |
| EXPOSURE             | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause coughing and headache.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> If swallowed, will cause nausea and vomiting.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.<br>108-88-3 | <p style="text-align: center;"><b>TOLUENE</b></p> <p>Colorless liquid; pleasant odor.</p>  |  |
| SYNONYMS            | Toluol, methylbenzene, methylbenzol, phenylmethane.  |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid and vapor.<br/>Wear goggles and self-contained breathing apparatus.<br/>Stay upwind.</p>  |   |
| HAZARDS             | <p>Highly flammable.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>When heated, it emits toxic fumes.<br/>Flammable, irritating vapor is produced when mixed with water.<br/>Can react vigorously with oxidizing materials.</p> <p>Narcotic in high concentrations.<br/>Eye and respiratory irritant.<br/>Hazardous by all exposure routes.<br/>Can be absorbed by the skin.</p> <p>TLV 100 ppm by skin absorption; 200 ppm in air.</p> <p><b>DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.</b></p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing, or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea, vomiting or loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p><b>CALL FOR MEDICAL AID.</b></p> |   |


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| CAS No.<br>584-34-9 | <p style="text-align: center;"><b>TOLUENE-2,4-DIISOCYANATE</b></p> Colorless to yellow liquid; sharp sweet fruity odor.  |  |
| SYNONYMS            | TDI, Hylene T, Mondur TDS, Naccanate 100, 2,4-tolylene diisocyanate.   |   |
| SAFETY MEASURES     | <p>AVOID CONTACT WITH LIQUID AND VAPOR.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>   |   |
| HAZARDS             | <p>Combustible.<br/>POISONOUS GAS IS PRODUCED IN FIRE.<br/>Reactive in confinement.</p> <p>Highly toxic by ingestion and inhalation.<br/>Vapors cause serious lung damage.<br/>Strong irritant to skin and tissues, especially to eyes.</p> <p>TLV 0.02 ppm.</p>   |   |
| EXPOSURE            | <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Will burn skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

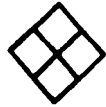



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| CAS No.<br>8001-35-2 | <p style="text-align: center;"><b>TOXAPHENE</b></p> Amber waxy solid or in solution   |  |
| SYNONYMS             | Chlorinated camphene, Strobane, Alltox, Geniphene, Toxakil, Toxadust, Octachlorocamphene.   |   |
| SAFETY MEASURES      | Avoid contact with solid and solution.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).   |   |
| HAZARDS              | <p>Solid not flammable, but usually dissolved in combustible liquid.<br/>POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE.</p> <p>Highly toxic by ingestion, inhalation, and skin absorption.<br/>About four times as toxic as DDT.<br/>Can cause death.<br/>Systemic absorption of toxaphene is increased by the presence of digestible oils.<br/>The liquid preparations penetrate the skin more readily than do dusts and wettable powders.<br/>Lethal dose is estimated to be 2 to 7 grams.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE             | <p>Solid or Solution<br/>POISONOUS IF SWALLOWED.<br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS, or having CONVULSIONS, limit first aid to keeping victim quiet and warm.</p> <p>CALL FOR MEDICAL AID.</p>  |   |


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| CAS No.<br>52-68-6 | TRICHLORFON   |  |
| SYNONYMS           | Dipterex, Dylox.  |   |
| SAFETY MEASURES    |   |   |
| HAZARDS            | <p>Highly toxic.<br/> Absorbed by the skin.<br/> Affects the nervous system.</p> <p>See chlorides, phosphates, and parathion.</p> |   |
| EXPOSURE           | <p>CALL FOR MEDICAL AID.</p>  |   |


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| CAS No.<br>25323-89-1 | <p style="text-align: center;"><b>TRICHLOROETHANE</b></p> Colorless liquid; sweet odor.   |  |
| SYNONYMS              | Methyl chloroform, vinyl trichloride, 1, 1, 1-trichloroethane.  |   |
| SAFETY<br>MEASURES    | Avoid contact with liquid and vapor.<br>Wear chemical-protective suit and self-contained breathing apparatus.   |   |
| HAZARDS               | <p>Combustible.<br/>POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE.<br/>Irritating vapor is produced when mixed with water.</p> <p>Can be absorbed by the skin.<br/>Narcotic in high concentrations.<br/>Local irritant to eyes, nose and lungs.</p> <p>See chlorides.</p> <p>TLV 350 ppm in air.</p>  |   |
| EXPOSURE              | <p><u>Vapor</u><br/>Irritating to eyes, nose, and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, may produce nausea.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>79-01-6 | <p style="text-align: center;"><b>TRICHLOROETHYLENE</b></p> <p>Colorless, liquid; sweet odor.</p>  |  |
| SYNONYMS           | Ethinyl trichloride, ethylene trichloride, trichloroethene, triclene.  |   |
| SAFETY MEASURES    |  |   |
| HAZARDS            | <p>Combustible.<br/>POISONOUS GASES OF OXIDES OF CHLORIDES ARE PRODUCED IN FIRE.<br/>Irritating vapor is produce when mixed with water.</p> <p>Highly toxic by inhalation.<br/>Moderately toxic by ingestion and skin absorption.<br/>High concentrations cause narcosis and anesthesia.<br/>Moderate concentrations cause headache and drowsiness.<br/>Can cause cardiac failure and death.</p> <p>See chlorides.</p> <p>TLV 100 ppm.</p>   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, vomiting, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>If swallowed, will cause nausea, vomiting, difficult breathing or loss of consciousness.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.<br/>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>75-69-4 | TRICHLOROFLUOROMETHANE<br>Colorless, odorless liquid.   |  |
| SYNONYMS           | F-11, Frenoil, Genetronil, Fluorotrichloromethane<br>Fluorocarbon-11.   |   |
| SAFETY<br>MEASURES | Avoid contact with liquid.<br>Wear goggles and self-contained breathing apparatus.  |   |
| HAZARDS            | <p>Non-flammable.<br/>POISONOUS GASES OF FLUORIDES AND CHLORIDES ARE PRODUCED IN FIRE.<br/>Harmful vapor is produced when mixed with water.</p> <p>High concentrations cause narcosis and anesthesia.<br/>Can be absorbed by the skin.<br/>Mild irritant.<br/>Slight hazard by all exposure routes.</p> <p>TLV 1000 ppm in air.</p> |   |
| EXPOSURE           | <p><u>Vapor</u><br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Not harmful.</p> <p>CALL FOR MEDICAL AID.</p>   |   |


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| CAS no.<br>25167-32-2 | <p style="text-align: center;"><b>TRICHLOROPHENOL</b></p> Yellow crystals or flakes; disinfectant odor.   |  |
| SYNONYMS              | Dowicide 2, Phenachlor, 2,4,5-trichlorophenol.  |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Flammable.<br/>When heated to decomposition, emits highly toxic fumes.</p> <p>Highly toxic by ingestion and inhalation.<br/>Strong irritant.<br/>Absorbed by the skin.<br/>Can cause liver, lung, kidney damage or death.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p> |   |
| EXPOSURE              | <p><u>Dust or Solid</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p>  |   |

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| CAS No.<br>1330-78-5 | TRICRESYL PHOSPHATE<br>Colorless, odorless liquid.  |  |
| SYNONYMS             | TCP, tritolyl phosphate, mixture of o-,m-, and p-isomers, tolyl-phosphate.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Combustible.<br/> When heated to decomposition, it emits toxic fumes of phosphorus oxides.<br/> Can react with oxidizing materials.</p> <p>Moderately toxic by ingestion and skin absorption.<br/> The ortho isomer is highly toxic.</p> <p>TLV 0.1 mg/m<sup>3</sup> of air.</p> |   |
| EXPOSURE             | <p><u>Liquid</u><br/> Harmful if swallowed.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p>  |   |


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| CAS No.<br>2437-56-1 | 1-TRIDECENE<br>Colorless liquid; mild pleasant odor.  |  |
| SYNONYMS             | Undecylethylene.  |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Flammable.<br/>May react with oxidizing materials.</p> <p>Irritant.<br/>Narcotic in high concentrations.</p>                             |   |
| EXPOSURE             | <p><u>Liquid</u><br/>Irritating to eyes.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |







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| CAS No.<br>121-44-8 | <p style="text-align: center;">TRIETHYLAMINE</p> Colorless liquid; fishy odor.  |  |
| SYNONYMS            | TEN.  |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).<br>Stay upwind.   |   |
| HAZARDS             | <p>Highly flammable.<br/> Flashback along vapor trail may occur.<br/> Vapor may explode if ignited in an enclosed area.<br/> Reacts vigorously with oxidizing materials.<br/> Flammable and irritating vapor is produced on contact with water.<br/> When heated to decomposition, emits toxic vapors.</p> <p>Highly toxic by ingestion and inhalation.<br/> Strong irritant to tissues.<br/> May cause liver and kidney damage.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>   |   |
| EXPOSURE            | <p><u>Vapor</u><br/> Irritating to eyes, nose and throat.<br/> If inhaled, will cause coughing, difficult breathing, or loss of consciousness.<br/> Move to fresh air.<br/> If breathing has stopped, give artificial respiration.<br/> If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/> Will burn skin and eyes.<br/> Harmful if swallowed.<br/> Remove contaminated clothing and shoes.<br/> Flush affected areas with plenty of water.<br/> IF IN EYES, hold eyelids open and flush with plenty of water.<br/> IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.<br/> IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm.</p> <p>CALL FOR MEDICAL AID.</p> |   |

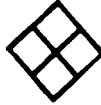


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| CAS No.<br>112-24-3 | <p style="text-align: center;"><b>TRIETHYLENETETRAMINE</b></p> <p>Straw to amber oily liquid; ammonia odor.</p>   |  |
| SYNONYMS            | TETA, N,N,-Bis(2-aminoethyl)ethylene-diamine.   |   |
| SAFETY MEASURES     | <p>Avoid contact with liquid.<br/>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</p>  |   |
| HAZARDS             | Combustible.  |   |
| EXPOSURE            | <p>Liquid<br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br/>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |

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| CAS No.<br>75-50-3 | <p style="text-align: center;">TRIMETHYLAMINE</p> Colorless, liquefied compressed gas; fish odor.   |  |
| SYNONYMS           |   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS            | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br>Floats, mixes and boils on water.<br>Poisonous, flammable, visible vapor cloud is produced.<br>Can react with oxidizing materials.<br>When heated to decomposition, emits highly toxic fumes.   |   |
| EXPOSURE           | <p><u>Vapor</u><br/>POISONOUS IF INHALED.<br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


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| CAS No.         | <p><b>TURPENTINE</b></p> <p>Colorless liquid; penetrating unpleasant odor.</p>   |  |
| SYNONYMS        | Spirits of turpentine, turps, gum turpentine, wood turpentine, gum thus.   |   |
| SAFETY MEASURES | Avoid contact with liquid and vapor.   |   |
| HAZARDS         | <p>Flammable.<br/>Flashback along vapor trail may occur.<br/>Irritating vapor is produced on contact with water.</p> <p>Highly toxic by ingestion.<br/>Moderately toxic by inhalation and skin absorption.<br/>Mild allergen.</p> <p>TLV 100 ppm in air.</p> <p>Dangerous to aquatic life in high concentrations.</p>  |   |
| EXPOSURE        | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause nausea, headache, difficult breathing or loss of consciousness.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>POISONOUS IF SWALLOWED.<br/>Irritating to skin and eyes.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                     |  |   |
|---------------------|--|---|
| CAS No.<br>821-95-4 | 1-UNDECENE<br>Colorless liquid; mild odor.   |  |
| SYNONYMS            | α-Nonylethylene.   |   |
| SAFETY MEASURES     | Avoid contact with liquid.   |   |
| HAZARDS             | Flammable.<br><br>Potential irritant and narcotic in high concentrations.  |   |
| EXPOSURE            | <u>Liquid</u><br>Irritating to skin and eyes.<br>Harmful if swallowed.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>DO NOT INDUCE VOMITING.<br><br><br>CALL FOR MEDICAL AID. |   |







|                     |   |   |
|---------------------|---|---|
| CAS No.<br>541-09-3 | URANYL ACETATE<br>Rhombic yellow crystals.                      |  |
| SYNONYMS            | Uranium oxyacetate.   |   |
| SAFETY MEASURES     |   |   |
| HAZARDS             | Uranium compounds are highly toxic.<br>A recognized carcinogen. |   |
| EXPOSURE            | CALL FOR MEDICAL AID.   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>10102-06-4 | URANYL NITRATE<br>Rhombic yellow crystals.  |  |
| SYNONYMS              | Uranium oxynitrate.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | Severe fire and explosive risk when shocked or heated, or in contact with organic materials.<br><br>Highly toxic. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.   |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1314-64-3 | URANYL SULFATE<br>Yellow-green crystals.   |  |
| SYNONYMS             | Uranium oxysulfate.  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Uranium compounds are highly toxic.<br/>A recognized carcinogen.</p> <p>See sulfates.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>   |   |

|                     |   |   |
|---------------------|---|---|
| CAS No.<br>110-62-3 | <p style="text-align: center;">VALERALDEHYDE</p> Colorless watery liquid; fruity odor.  |  |
| SYNONYMS            | Amyl aldehyde, valeric aldehyde, pentanal, valeral.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Stay upwind.  |   |
| HAZARDS             | Highly flammable.<br>Flashback along vapor trail may occur.<br>Vapor may explode if ignited in an enclosed area.<br><br>Mildly irritant and narcotic by ingestion or inhalation.  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>Move to fresh air.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Flush affected areas with plenty of water.</p> <p style="text-align: center;">CALL FOR MEDICAL AID.</p> |   |

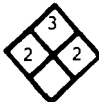
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|                 | VANADIUM COMPOUNDS   |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Toxicity is variable.<br/> Vanadium compounds act chiefly as irritants to the conjunctiva and respiratory tract.<br/> Prolonged exposure may lead to pulmonary involvement.</p> |   |
| EXPOSURE        |  |   |





|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1314-62-1 | VANADIUM PENTOXIDE<br>Yellow to red crystalline powder.   |  |
| SYNONYMS             | Vanadic acid anhydride.   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Highly toxic by inhalation.<br>TLV dust 0.5 mg/m <sup>3</sup> of air; fumes 0.1 mg/m <sup>3</sup> of air. |   |
| EXPOSURE             | CALL FOR MEDICAL AID.   |   |







|                     |  |   |
|---------------------|--|---|
| CAS No.<br>103-05-1 | VINYL ACETATE<br>Colorless liquid; pleasant fruity odor.   |  |
| SYNONYMS            | VyAc, Vinyl A monomer.   |   |
| SAFETY MEASURES     | Avoid contact with liquid and vapor.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS             | <p>Highly flammable.<br/>Containers may explode in fire.<br/>Flashback along vapor trail may occur.<br/>Vapor may explode if ignited in an enclosed area.<br/>Will react with oxidizing materials.<br/>Reacts violently with peroxides.<br/>Flammable, irritating vapor is produced on contact with water.<br/>When heated to decomposition, emits acrid fumes.</p> <p>Vapor is narcotic in high concentration.<br/>Vapor will irritate eyes.<br/>Low toxicity.<br/>Skin irritant.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| EXPOSURE            | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed or if spilled on skin.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                    |   |   |
|--------------------|---|---|
| CAS No.<br>75-01-4 | VINYL CHLORIDE<br>Colorless, liquefied compressed gas; sweet odor.  |  |
| SYNONYMS           | Chloroethylene, chloroethene, VCl, Vinyl C monomer.   |   |
| SAFETY MEASURES    | Avoid contact with liquid and vapor.<br>Wear self-contained breathing apparatus.<br>Stay upwind.  |   |
| HAZARDS            | <p>Extremely flammable.<br/>Flashback along vapor trail may occur.<br/>POISONOUS GAS OF PHOSGENE IS PRODUCED IN FIRE.<br/>Vapor may explode if ignited in an enclosed area.<br/>Can react vigorously with oxidizing materials.<br/>Liquid floats and boils on water, producing flammable, irritating, visible vapor cloud.</p> <p>In high concentrations acts as an anesthetic.<br/>Causes skin burns by rapid evaporation.<br/>Consequent freezing may be fatal in high concentrations.</p> <p>TLV 500 ppm in air.</p> |   |
| EXPOSURE           | <p><u>Vapor</u><br/>Irritating to eyes, nose and throat.<br/>If inhaled, will cause dizziness or difficult breathing.<br/>Move to fresh air.<br/>If breathing has stopped, give artificial respiration.<br/>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u><br/>Will cause frostbite.<br/>Flush affected areas with plenty of water.<br/>DO NOT RUB AFFECTED AREAS.</p> <p>CALL FOR MEDICAL AID.</p>   |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>25013-15-4 | VINYL TOLUENE<br>Colorless watery liquid; unpleasant odor.   |  |
| SYNONYMS              | p-methylstyrene.   |   |
| SAFETY MEASURES       | Avoid contact with liquid.<br>Wear goggles and self-contained breathing apparatus.   |   |
| HAZARDS               | <p>Flammable.<br/>Containers may explode in fire.<br/>Vapor forms explosive mixture with air.<br/>Can react with oxidizing materials.</p> <p>Can be absorbed by the skin.<br/>Moderately toxic.<br/>Eye and respiratory irritant.<br/>High concentrations cause anesthesia and have systemic effects.</p> <p>TLV 100 ppm in air.</p>                 |   |
| EXPOSURE              | <p><u>Liquid</u><br/>Irritating to skin and eyes.<br/>Harmful if swallowed.<br/>Remove contaminated clothing and shoes.<br/>Flush affected areas with plenty of water.<br/>IF IN EYES, hold eyelids open and flush with plenty of water.<br/>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>CALL FOR MEDICAL AID.</p> |   |




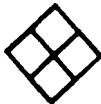
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|-----------------|---|---|
|                 | <p>WAXES: CARNAUBA</p> <p>Odorless, yellow to dark green thick liquid.</p>  |  |
| SYNONYMS        | Brazil wax.   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Combustible.</p> <p>Can react with oxidizing materials.</p>  |   |
| EXPOSURE        | <p>Liquid</p> <p>Will burn skin and eyes.</p> <p>Remove wax.</p> <p>Flush affected areas with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |

|                 |   |   |
|-----------------|---|---|
|                 | <p><b>WAXES: PARAFFIN</b></p> <p>Yellow to white thick liquid; waxy odor.</p>   |  |
| SYNONYMS        | Petroleum wax.  |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Combustible.<br/>Can react with oxidizing materials.</p>   |   |
| EXPOSURE        | <p><u>Liquid</u><br/>Will burn skin and eyes.<br/>Remove wax.<br/>Flush affected areas with plenty of water.</p> <p>CALL FOR MEDICAL AID.</p> |   |


|                        |  |   |
|------------------------|--|---|
|                        | <p><b>XYLENE: ORTHO, META, PARA</b></p> <p>Colorless, watery liquid; sweet odor.</p>   |  |
| <b>SYNONYMS</b>        | o-,p-, and m-xylol.  |   |
| <b>SAFETY MEASURES</b> | <p>Avoid contact with liquid and vapor.</p> <p>Wear self-contained breathing apparatus.</p>  |   |
| <b>HAZARDS</b>         | <p>Flammable.</p> <p>Flashback along vapor trail may occur.</p> <p>Vapors may explode if ignited in an enclosed area.</p> <p>Can react with oxidizing materials.</p> <p>Toxic.</p> <p>Vapors are anesthetic in high concentrations.</p> <p>Irritant to skin and upper respiratory tract.</p> <p>TLV 100 ppm.</p> <p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</p>  |   |
| <b>EXPOSURE</b>        | <p><u>Vapor</u></p> <p>Irritating to eyes, nose and throat.</p> <p>If inhaled, will cause headache, difficult breathing, or loss of consciousness.</p> <p>Move to fresh air.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p><u>Liquid</u></p> <p>Irritating to skin and eyes.</p> <p>If swallowed, will cause nausea, vomiting, or loss of consciousness.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>DO NOT INDUCE VOMITING.</p> <p>CALL FOR MEDICAL AID.</p> |   |





|                      |   |   |
|----------------------|---|---|
| CAS No.<br>1300-71-6 | XYLENOL   |  |
| SYNONYMS             | 3,5-dimethylphenol, 1-hydroxy-3,5-dimethylbenzene, 5-hydroxy-1,3-dimethylbenzene, dimethyl phenol, hydroxydimethyl benzene.   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | <p>Flammable.<br/>Can react with oxidizing materials.<br/>When heated to decomposition, emits toxic fumes.</p> <p>Highly toxic by ingestion and skin absorption.<br/>Fatal amounts can be absorbed by the skin in 30 minutes.<br/>Strong irritant.</p> <p>See phenol.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>  |   |


|                     |                              |   |
|---------------------|------------------------------|---|
| CAS No.<br>315-18-4 | ZECTRAN                      |  |
| SYNONYMS            | Mexacarbate.                 |   |
| SAFETY MEASURES     |                              |   |
| HAZARDS             |                              |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p> |   |




|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>52623-25-8 | ZINC AMMONIUM CHLORIDE  |  |
| SYNONYMS              | Zalcon.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Low toxicity.</p> <p>See zinc compounds and chlorides.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>                                  |   |

|                       |                                  |   |
|-----------------------|----------------------------------|---|
| CAS No.<br>13314-87-4 | ZINC AMMONIUM SULFATE            |  |
| SYNONYMS              |                                  |   |
| SAFETY<br>MEASURES    |                                  |   |
| HAZARDS               | See zinc compounds and sulfates. |   |
| EXPOSURE              | CALL FOR MEDICAL AID.            |   |


|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>14013-95-2 | <p style="text-align: center;"><b>ZINC BICHROMATE</b></p> <p>Orange-yellow powder; red-brown crystals.</p>   |  |
| SYNONYMS              | Zinc dichromate.   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Flammable by chemical reaction.<br/>Can react with reducing materials.<br/>A powerful oxidizing agent.</p> <p>Highly toxic by ingestion and inhalation.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |


|                      |  |   |
|----------------------|--|---|
| CAS No.<br>1332-07-6 | ZINC BORATE<br>White amorphous powder.                             |  |
| SYNONYMS             |  |   |
| SAFETY MEASURES      |  |   |
| HAZARDS              | <p>Low toxicity.<br/>Non-flammable.</p> <p>See zinc compounds.</p> |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>                                       |   |

|                      |   |   |
|----------------------|---|---|
| CAS No.<br>7699-45-8 | ZINC BROMIDE<br>Rhombic colorless crystals.       |  |
| SYNONYMS             |   |   |
| SAFETY MEASURES      |   |   |
| HAZARDS              | Low toxicity.<br>See zinc compounds and bromides. |   |
| EXPOSURE             | CALL FOR MEDICAL AID.                             |   |





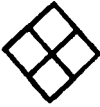
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| CAS No.<br>7646-85-7 | ZINC CHLORIDE<br>Odorless, white solid.  |  |
| SYNONYMS             | Butter of zinc.  |   |
| SAFETY MEASURES      | Avoid contact with solid and solution.<br>Filter mask required or self-contained breathing apparatus if in fire.   |   |
| HAZARDS              | Non-flammable.<br>Combustion with moderate heating.<br>When heated to decomposition, emits highly toxic fumes.<br><br>Can cause ulceration of skin.<br>Dose of 6 grams has been fatal to man.<br><br>TLV Fumes - 1 mg/m <sup>3</sup> of air.<br><br><br>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.  |   |
| EXPOSURE             | <u>Solid or Solution</u><br>Irritating to skin and eyes.<br>If swallowed, will cause nausea or vomiting.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water.<br>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.<br>IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, do nothing except keep victim warm.<br><br><br>CALL FOR MEDICAL AID. |   |

|                 |   |   |
|-----------------|---|---|
|                 | ZINC COMPOUNDS  |  |
| SYNONYMS        |   |   |
| SAFETY MEASURES |   |   |
| HAZARDS         | <p>Zinc is not inherently toxic, however, when heated it evolves a fume of zinc acid which, when inhaled fresh, can cause a disease called "Brass founders' ague" or "Brass chills." Zinc oxide dust which is not freshly formed is virtually innocuous.</p> <p>There is no cumulative effect.</p> <p>Fatalities however, have resulted from lung damage caused by inhalation of high concentrations of zinc chloride fumes. Soluble salts of zinc in small doses can cause nausea and vomiting.</p> <p>Large doses can cause violent vomiting and surging.</p> <p>TLV 5 mg/m<sup>3</sup></p> |   |
| EXPOSURE        |   |   |







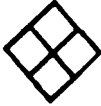
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| CAS No.<br>7779-36-4 | ZINC HYDROSULFIDE     |  |
| SYNONYMS             |                       |   |
| SAFETY MEASURES      |                       |   |
| HAZARDS              | See zinc compounds.   |   |
| EXPOSURE             | CALL FOR MEDICAL AID. |   |











|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>51810-70-9 | ZINC PHOSPHIDE<br>Cubic, dark gray crystals or powder.  |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Reacts violently with acids or acid fumes to emit highly toxic phosphine.</p> <p>Highly toxic by ingestion.</p> <p>See zinc compounds.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>11103-86-9 | ZINC POTASSIUM CHROMATE  |  |
| SYNONYMS              | Citron yellow, buttercup yellow, zinc chrom, zinc yellow.                    |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Toxic by ingestion.</p> <p>See zinc compounds and chromium compounds.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |


|                     |  |   |
|---------------------|--|---|
| CAS No.<br>557-28-8 | ZINC PROPIONATE  |  |
| SYNONYMS            |  |   |
| SAFETY<br>MEASURES  |  |   |
| HAZARDS             | <p>Combustible.<br/>Decomposes in moist atmosphere liberating propionic acid.</p> <p>Low toxicity.</p> <p>See zinc compounds and propionic acid.</p> |   |
| EXPOSURE            | <p>CALL FOR MEDICAL AID.</p>   |   |










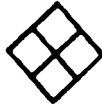



|                      |                         |   |
|----------------------|-------------------------|---|
| CAS No.<br>7535-20-8 | ZIRCONIUM ACETATE       |  |
| SYNONYMS             |                         |   |
| SAFETY MEASURES      |                         |   |
| HAZARDS              | TLV 5 mg/m <sup>3</sup> |   |
| EXPOSURE             | CALL FOR MEDICAL AID.   |   |


|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>16919-31-6 | ZIRCONIUM AMMONIUM FLUORIDE<br>White rhombic or colorless crystals. |  |
| SYNONYMS              | Ammonium zirconifluoride.   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | Highly toxic and irritant.<br>TLV 5 mg/m <sup>3</sup> in air.       |   |
| EXPOSURE              | CALL FOR MEDICAL AID.   |   |


|                 |  |   |
|-----------------|--|---|
|                 | ZIRCONIUM COMPOUNDS  |  |
| SYNONYMS        |  |   |
| SAFETY MEASURES |  |   |
| HAZARDS         | <p>Most zirconium compounds in common use are insoluble and considered inert.<br/> Pulmonary granuloma has been reported in zirconium workers.<br/> Sodium zirconium lactate has been held responsible for skin granulomas.<br/> Consider zirconium compounds toxic.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE        |  |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>13746-89-9 | ZIRCONIUM NITRATE<br>White crystals.   |  |
| SYNONYMS              |  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Highly flammable and explosive risk in contact with organic materials.<br/>Strong oxidizing agent.</p> <p>See nitrates.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |

|                      |  |   |
|----------------------|--|---|
| CAS No.<br>7599-43-6 | ZIRCONIUM OXYCHLORIDE                        |  |
| SYNONYMS             | Zirconium chloride basic, zirconyl chloride. |   |
| SAFETY<br>MEASURES   |  |   |
| HAZARDS              |  |   |
| EXPOSURE             | <p>CALL FOR MEDICAL AID.</p>                 |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>16923-95-8 | ZIRCONIUM POTASSIUM FLUORIDE   |  |
| SYNONYMS              | Potassium fluorzirconate, potassium zirconifluoride.                                   |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Toxic and irritant.</p> <p>See fluorides.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |

|                       |   |   |
|-----------------------|---|---|
| CAS No.<br>14644-61-2 | ZIRCONIUM SULFATE   |  |
| SYNONYMS              |   |   |
| SAFETY MEASURES       |   |   |
| HAZARDS               | <p>Emits toxic vapors when heated to decomposition.</p> <p>See zirconium compounds.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>  |   |

|                       |  |   |
|-----------------------|--|---|
| CAS No.<br>10025-11-6 | <p style="text-align: center;"><b>ZIRCONIUM TETRACHLORIDE</b></p> White lustrous crystals.                     |  |
| SYNONYMS              | Zirconium chloride.  |   |
| SAFETY MEASURES       |  |   |
| HAZARDS               | <p>Toxic and irritant.</p> <p>See zirconium compounds and chlorides.</p> <p>TLV 5 mg/m<sup>3</sup> in air.</p> |   |
| EXPOSURE              | <p>CALL FOR MEDICAL AID.</p>   |   |



**TECHNICAL REPORT DATA**  
(Please read Instructions on the reverse before completing)

|   |  |   |  |  |  |
|---|--|---|--|--|--|
| 1. REPORT NO.<br>EPA-600/4-79-008b  |  | 2.  |  | 3. RECIPIENT'S ACCESSION NO.                   |  |
| 4. TITLE AND SUBTITLE<br>HAZARDOUS MATERIALS SPILL MONITORING: Safety Handbook and Chemical Hazard Guide, Part B--Chemical Data   |  |   |  | 5. REPORT DATE<br>January 1979                 |  |
|   |  |   |  | 6. PERFORMING ORGANIZATION CODE                |  |
| 7. AUTHOR(S)<br>Llewellyn R. Williams, Eleftheria Calliga, Robert Thomas  |  |   |  | 8. PERFORMING ORGANIZATION REPORT NO.          |  |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Environmental Monitoring and Support Laboratory<br>Office of Research and Development<br>U.S. Environmental Protection Agency<br>Las Vegas, NV 89114   |  |   |  | 10. PROGRAM ELEMENT NO.<br>1BD613              |  |
|   |  |   |  | 11. CONTRACT/GRANT NO.                         |  |
| 12. SPONSORING AGENCY NAME AND ADDRESS<br>U.S. Environmental Protection Agency-Las Vegas, NV<br>Office of Research and Development<br>Environmental Monitoring and Support Laboratory<br>Las Vegas, NV 89114  |  |   |  | 13. TYPE OF REPORT AND PERIOD COVERED<br>Final |  |
|   |  |   |  | 14. SPONSORING AGENCY CODE<br>EPA/600/07       |  |
| 15. SUPPLEMENTARY NOTES<br>This volume is for use with its companion volume, Part A.  |  |   |  |  |  |
| 16. ABSTRACT<br>This two-part document is intended to serve as a guide to the hazards associated with a broad range of chemical compounds which may be encountered in hazardous materials spills. The document addresses 655 chemicals identified on the basis of known toxicity or spill history and designated "hazardous" by the U.S. Environmental Protection Agency.<br><br>Part A of this document is a safety and first aid reference for personnel responding to spills of hazardous materials which may involve any of the chemicals addressed. It includes safety considerations, first aid procedures, and descriptions of protective equipment; a description of the hazard-rating system used in Part B; and a priority listing of hazardous materials based on their hazard ratings and reported spill frequency.<br><br>Part B of this document is an index of the 655 chemicals. Part B includes a data sheet for each chemical showing its CAS number, synonyms, and hazard priority number, and giving information on hazards, safety measures, and exposure. This part is provided in a form for loose-leaf binding to facilitate addition, revision, and update as new data become available. |  |   |  |  |  |
| 17. KEY WORDS AND DOCUMENT ANALYSIS   |  |   |  |  |  |
| a. DESCRIPTORS  |  | b. IDENTIFIERS/OPEN ENDED TERMS                                 |  | c. COSATI Field/Group                          |  |
| hazardous materials<br>toxicology, toxicity<br>first aid, safety<br>chemical properties<br>flammability<br>chemical reactivity  |  | hazardous chemical<br>spills, spill monitors,<br>spill response |  | 11<br>06J<br>06T<br>13L                        |  |
| 18. DISTRIBUTION STATEMENT<br><br>RELEASE TO PUBLIC   |  | 19. SECURITY CLASS (This Report)<br>UNCLASSIFIED                |  | 21. NO. OF PAGES<br>674                        |  |
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