

# COPPER CYANIDE (OUS)

CCY

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>		Solid powder	White
Cupricin Cuprous cyanide		Sinks in water.	
<p><b>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.</b>                  Notify local health and pollution control agencies.                  Protect water intakes.</p>			
<b>Fire</b>	Not flammable. POISONOUS GASES MAY BE PRODUCED WHEN HEATED.		
<b>Exposure</b>	CALL FOR MEDICAL AID. DUST Irritating to eyes, nose and throat. If inhaled will cause dizziness or loss of consciousness. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  SOLID POISONOUS IF SWALLOWED. Irritating to skin and eyes. If swallowed will cause dizziness and loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.		
<b>Water Pollution</b>	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.		

### 1. CORRECTIVE RESPONSE ACTIONS

Stop discharge  
 Collection Systems: Dredge

### 2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.  
 2.2 **Formula:** CuCN  
 2.3 **IMO/UN Designation:** 6.1/1587  
 2.4 **DOT ID No.:** 1587  
 2.5 **CAS Registry No.:** 544-92-3  
 2.6 **NAERG Guide No.:** 151  
 2.7 **Standard Industrial Trade Classification:** 52381

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Dust respirator; protective goggles or face mask; protective clothing  
 3.2 **Symptoms Following Exposure:** Following severe exposure to dust, symptoms of cyanide poisoning may develop (see ingestion). Ingestion causes anxiety, confusion, dizziness, sudden loss of consciousness, odor of bitter almonds on breath or in vomitus, rapid weak pulse, convulsions, and paralysis. Contact with eyes causes irritation.  
 3.3 **Treatment of Exposure:** Get medical attention after all exposures to this substance. **INHALATION:** remove victim to fresh air. **INGESTION:** if breathing has stopped, begin artificial respiration immediately; administer by inhalation amyl nitrite pearls for 15-30 seconds of every minute, while a sodium nitrite solution is being prepared; discontinue amyl nitrite and immediately inject intravenously 10 ml of a 3% soln. of sodium nitrite (nonsterile if necessary) over a period of 2 to 4 min.; do not remove needle; through same needle infuse 50 ml of a 25% aqueous soln. of sodium thiosulfate; injection should take about 10 min. (Concentrations of 5-50% are permissible if total dose is approx. 12 grams.) Oxygen therapy may be of value in combination with the above. If symptoms recur, repeat injections of nitrite and thiosulfate at half the above doses. **EYES:** flush with water for at least 15 min. **SKIN:** flush with water; wash with soap and water.  
 3.4 **TLV-TWA:** Not listed.  
 3.5 **TLV-STEL:** Not listed.  
 3.6 **TLV-Ceiling:** 5 mg/m<sup>3</sup> as cyanide  
 3.7 **Toxicity by Ingestion:** Grade 4; LD<sub>50</sub> < 50 mg/kg  
 3.8 **Toxicity by Inhalation:** Currently not available.  
 3.9 **Chronic Toxicity:** Currently not available  
 3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available  
 3.11 **Liquid or Solid Characteristics:** Currently not available  
 3.12 **Odor Threshold:** Currently not available  
 3.13 **IDLH Value:** 25 mg/m<sup>3</sup> as cyanide  
 3.14 **OSHA PEL-TWA:** 5 mg/m<sup>3</sup> as cyanide  
 3.15 **OSHA PEL-STEL:** Not listed.  
 3.16 **OSHA PEL-Ceiling:** Not listed.  
 3.17 **EPA AEGL:** Not listed

### 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
 Not flammable  
 4.2 **Flammable Limits in Air:** Not flammable  
 4.3 **Fire Extinguishing Agents:** Not pertinent  
 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent  
 4.5 **Special Hazards of Combustion**  
**Products:** Toxic hydrogen cyanide gas may form in fires.  
 4.6 **Behavior in Fire:** Currently not available  
 4.7 **Auto Ignition Temperature:** Not pertinent  
 4.8 **Electrical Hazards:** Not pertinent  
 4.9 **Burning Rate:** Not pertinent  
 4.10 **Adiabatic Flame Temperature:** Currently not available  
 4.11 **Stoichiometric Air to Fuel Ratio:** Not Pertinent  
 4.12 **Flame Temperature:** Currently not available  
 4.13 **Combustion Molar Ratio (Reactant to Product):** Not Pertinent  
 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction  
 5.2 **Reactivity with Common Materials:**  
 Currently not available  
 5.3 **Stability During Transport:** Stable. In presence of moisture, toxic hydrogen cyanide gas may collect in enclosed spaces.  
 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent  
 5.5 **Polymerization:** Not pertinent  
 5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
 Currently not available  
 6.2 **Waterfowl Toxicity:** Currently not available  
 6.3 **Biological Oxygen Demand (BOD):**  
 Currently not available  
 6.4 **Food Chain Concentration Potential:**  
 Copper known to be accumulated by shellfish. Hazard to humans unknown.  
 6.5 **GESAMP Hazard Profile:**  
**Bioaccumulation:** +  
**Damage to living resources:** 4  
**Human Oral hazard:** 3  
**Human Contact hazard:** 1  
**Reduction of amenities:** XXX

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Technical; C.P.  
 7.2 **Storage Temperature:** Ambient  
 7.3 **Inert Atmosphere:** No requirement  
 7.4 **Venting:** Closed container  
 7.5 **IMO Pollution Category:** Currently not available  
 7.6 **Ship Type:** Currently not available  
 7.7 **Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Poison  
 8.2 **49 CFR Class:** 6.1  
 8.3 **49 CFR Package Group:** II  
 8.4 **Marine Pollutant:** Yes  
 8.5 **NFPA Hazard Classification:** Not listed  
 8.6 **EPA Reportable Quantity:** 10 pounds  
 8.7 **EPA Pollution Category:** A  
 8.8 **RCRA Waste Number:** P029  
 8.9 **EPA FWPCA List:** Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid  
 9.2 **Molecular Weight:** 89.56  
 9.3 **Boiling Point at 1 atm:** Not pertinent (decomposes)  
 9.4 **Freezing Point:** Not pertinent  
 9.5 **Critical Temperature:** Not pertinent  
 9.6 **Critical Pressure:** Not pertinent  
 9.7 **Specific Gravity:** 2.92 at 20°C (solid)  
 9.8 **Liquid Surface Tension:** Not pertinent  
 9.9 **Liquid Water Interfacial Tension:** Not pertinent  
 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent  
 9.11 **Ratio of Specific Heats of Vapor (Gas):**  
 Not pertinent  
 9.12 **Latent Heat of Vaporization:** Not pertinent  
 9.13 **Heat of Combustion:** Not pertinent  
 9.14 **Heat of Decomposition:** Not pertinent  
 9.15 **Heat of Solution:** Not pertinent  
 9.16 **Heat of Polymerization:** Not pertinent  
 9.17 **Heat of Fusion:** 30.1 cal/g  
 9.18 **Limiting Value:** Currently not available  
 9.19 **Reid Vapor Pressure:** Currently not available

### NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I N S O L U B L E		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T