

MERCURIC CYANIDE

MCN

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Solid (crystals or powder) White
Cianurina Mercury cyanide Mercury (II) cyanide		Sinks and mixes slowly with water.
<p>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST. Wear a dust respirator and rubber overclothing (including gloves). Notify local health and pollution control agencies.</p>		
Fire	Not flammable. POISONOUS GASES MAY BE PRODUCED WHEN HEATED.	
Exposure	<p>CALL FOR MEDICAL AID. DUST POISONOUS IF INHALED OR IF SKIN IS EXPOSED. If inhaled will cause coughing or difficult breathing. 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.</p> <p>SOLID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to skin and eyes. If swallowed will cause nausea and vomiting. 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.</p>	
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.	

<p>1. CORRECTIVE RESPONSE ACTIONS Stop discharge</p>	<p>2. CHEMICAL DESIGNATIONS</p> <p>2.1 CG Compatibility Group: Not listed. 2.2 Formula: Hg(CN)₂ 2.3 IMO/UN Designation: 6.1/1636 2.4 DOT ID No.: 1636 2.5 CAS Registry No.: 592-04-1 2.6 NAERG Guide No.: 154 2.7 Standard Industrial Trade Classification: 52381</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Dust mask; goggles or face shield; rubber gloves</p> <p>3.2 Symptoms Following Exposure: Symptoms of both cyanide and mercury intoxication can occur. Acute poisoning has resulted from inhaling dust concentrations of 1.2-8.5 mg/m³ of air; symptoms include tightness and pain in chest, coughing, and difficulty in breathing; cyanide poisoning can cause anxiety, confusion, dizziness, and shortness of breath, with possible unconsciousness, convulsions, and paralysis; breath may smell like bitter almonds. Ingestion causes necrosis, pain, vomiting, and severe purging, plus the above symptoms. Contact with eyes causes ulceration of conjunctiva and cornea. Contact with skin causes irritation and possible dermatitis; systemic poisoning can occur by absorption through skin.</p> <p>3.3 Treatment of Exposure: Act quickly; call physician. INHALATION: if victim has stopped breathing, start artificial respiration immediately; using amyl nitrite pearls, administer amyl nitrite by inhalation for 15-30 seconds of every minute while sodium nitrite solution is being prepared; discontinue amyl nitrite and immediately inject intravenously 10 ml of a 3% solution of sodium nitrite (nonsterile if necessary) over a period of 2-4 min.; without removing needle, infuse intravenously 50 ml of a 25% aqueous solution of sodium thiosulfate; injection should take about 10 min. (concentrations of 5-50% may be used, but keep total dose approx. 12 gm). Oxygen therapy may be helpful in combination with the above. INGESTION: alimentary absorption is very rapid; action during first 10-15 min. determines prognosis. Give egg whites, milk, or activated charcoal and induce vomiting; treat for cyanide poisoning as above. EYES or SKIN: wash with water for 15 min.</p> <p>3.4 TLV-TWA: 0.025 mg/m³ (as mercury) 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 4; oral LD₅₀ = 25 mg/kg (rat) 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: Odorless 3.13 IDLH Value: Currently not available 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: 0.1 mg/m³ (as mercury) 3.17 EPA AEG1: Not listed</p>	

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: Fumes from fire may contain toxic mercury and hydrogen cyanide.
4.6 Behavior in Fire: Not pertinent
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: Contact with any acidic material will form poisonous hydrogen cyanide gas, which may collect in enclosed spaces.
5.3 Stability During Transport: Stable
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: 0.02 ppm/48 hr/daphnia magna/TL_m/fresh water
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Possible bioaccumulation problem. Many organisms can accumulate mercury from water. Bioconcentrative up to 10,000 fold.
6.5 GESAMP Hazard Profile: Bioaccumulation: +
Damage to living resources: 4
Human Oral hazard: 3
Human Contact hazard: II
Reduction of amenities: XXX

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Reagent
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open
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:
- | | |
|---------------------------|----------------|
| Category | Classification |
| Health Hazard (Blue)..... | 3 |
| Flammability (Red)..... | 0 |
| Instability (Yellow)..... | 0 |
- 8.6 EPA Reportable Quantity: 1 pound
8.7 EPA Pollution Category: X
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 252.63
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: 4.0 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: Currently not available
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
34	6.700		N O T		N O T		N O T
36	6.900		P E R T I N E N T		P E R T I N E N T		P E R T I N E N T
38	7.100						
40	7.300						
42	7.500						
44	7.700						
46	7.900						
48	8.100						
50	8.300						
52	8.500						
54	8.700						
56	8.900						
58	9.100						
60	9.300						
62	9.500						
64	9.700						
66	9.900						
68	10.100						
70	10.300						
72	10.500						
74	10.700						
76	10.900						
78	11.100						
80	11.300						
82	11.500						
84	11.700						