

CUPRIETHYLENEDIAMINE SOLUTION

CES

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms Cupriethylenediamine hydroxide solution	Liquid	Blue to dark purple	Fishy odor Sinks and mixes with water. Irritating vapor is produced.
KEEP PEOPLE AWAY - AVOID CONTACT WITH LIQUID. Wear rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.			
Fire	Not flammable. Irritating gases may be produced when heated.		
Exposure	CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. If inhaled will cause difficult breathing. Move victim to fresh air. If breathing is difficult, give oxygen. LIQUID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to skin and eyes. 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.		
Water Pollution	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 Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: Cu(OH) ₂ -NH ₂ CH ₂ CH ₂ NH ₂ -H ₂ O 2.3 IMO/UN Designation: 8/1761 2.4 DOT ID No.: 1761 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: 154 2.7 Standard Industrial Trade Classification: 51489
3. HEALTH HAZARDS	
3.1 Personal Protective Equipment: Goggles or face shield; organic canister mask; rubber gloves; protective clothing.	
3.2 Symptoms Following Exposure: Inhalation of vapor irritates mucous membrane and may cause asthma. Liquid causes severe irritation of eyes and possible corneal injury. Contact with skin causes irritation. Ingestion causes irritation of mouth and stomach.	
3.3 Treatment of Exposure: INHALATION: remove from exposure; support respiration; call physician. EYES: irrigate with copious quantities of water for at least 15 min.; call physician. SKIN: wash with large amounts of water. INGESTION: give large amounts of water.	
3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Currently not available 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: Not listed. 3.14 OSHA PEL-TWA: Not listed. 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: Non-flammable solution 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: Not pertinent 4.6 Behavior in Fire: Irritating vapors of ethylenediamine may be produced when heated. 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	7. SHIPPING INFORMATION 7.1 Grades of Purity: Commercial 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: Nitrogen 7.4 Venting: Pressure-vacuum 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: Corrosive material 8.2 49 CFR Class: 8 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: Yes 8.5 NFPA Hazard Classification: Category Classification Health Hazard (Blue)..... 4 Flammability (Red)..... 4 Instability (Yellow)..... 2	
8.6 EPA Reportable Quantity: Not listed. 8.7 EPA Pollution Category: Not listed. 8.8 RCRA Waste Number: Not listed 8.9 EPA FWCNA List: Not listed	9. PHYSICAL & CHEMICAL PROPERTIES
9.1 Physical State at 15° C and 1 atm: Liquid 9.2 Molecular Weight: Mixture 9.3 Boiling Point at 1 atm: (approx.) 212°F = 100°C = 373°K 9.4 Freezing Point: Not pertinent 9.5 Critical Temperature: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: (est.) > 1.1 at 20°C (liquid) 9.8 Liquid Surface Tension: Currently not available 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
68	68.660		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
	M I S C I 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