

COPPER BROMIDE (OUS)

CBD

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Copper monobromide		Solid powder or crystals	White turns green to dark blue on exposure to sunlight
		Sinks and mixes slowly with water.	
<p>Keep people away. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	Fire data not available.		
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>SOLID Irritating to skin and eyes. If swallowed will cause pain, nausea, and vomiting. 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 induce vomiting.</p>		
Water Pollution	<p>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
Collection Systems: Dredge

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: Not listed.
- 2.2 Formula: CuBr
- 2.3 IMO/UN Designation: Not listed
- 2.4 DOT ID No.: Not listed
- 2.5 CAS Registry No.: Currently not available
- 2.6 NAERG Guide No.: Not listed
- 2.7 Standard Industrial Trade Classification: 52329

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Rubber gloves, safety glasses, and laboratory coat.
- 3.2 **Symptoms Following Exposure:** INHALATION: Irritation of upper respiratory tract. EYES: Irritation of conjunctivae. SKIN: Irritation, acne-like rash (usually from prolonged exposure). INGESTION: Vomiting caused by local irritant and astringent action of ionic Cu on stomach and intestines. Pain in mouth, esophagus, and stomach. Inorganic bromides produce depression, psychoses, and mental deterioration.
- 3.3 **Treatment of Exposure:** Call a physician. INHALATION: Remove from exposure. EYES: Flush with copious amounts of water. SKIN: Wash with copious amounts of water. INGESTION: Dilute with water or milk, induce vomiting, give egg whites and other demulcents. Replace fluids with 5% dextrose in saline.
- 3.4 **TLV-TWA:** Notice of intended change: 0.05 mg/m³ respirable particles as copper.
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 3; LD₅₀ = 50 to 500 mg/kg
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Inorganic bromides can cause depression, emaciation, and, in severe cases, psychoses and mental deterioration. An acne-like rash often occurs.
- 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:** 100 mg Cu/m³ (dusts, mists, and fumes)
- 3.14 **OSHA PEL-TWA:** 0.1 mg/m³ as copper.
- 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:** Currently not available
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Currently not available
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Currently not available
- 4.5 **Special Hazards of Combustion Products:** Currently not available
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Currently not available
- 4.8 **Electrical Hazards:** Currently not available
- 4.9 **Burning Rate:** Currently not available
- 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:** Currently not available
- 5.2 **Reactivity with Common Materials:** Currently not available
- 5.3 **Stability During Transport:** Keep tightly closed in a dark place.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Currently not available
- 5.5 **Polymerization:** Currently not available
- 5.6 **Inhibitor of Polymerization:** Currently not available

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**
The toxicity varies significantly not only with species, but also with physical and chemical characteristics of the water. Concentrations from 0.015 to 3.0 mg/l Cu are toxic to many fish, crustacea, mollusks, insects, and plankton.
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** 8.4 to 35 mg/l Cu caused a 50% reduction in 5-day BOD
- 6.4 **Food Chain Concentration Potential:** Copper is concentrated by plankton by factors of 1000 to 5000 or more.
- 6.5 **GESAMP Hazard Profile:** Not listed

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Currently not available
- 7.2 **Storage Temperature:** Currently not available
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 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:** Not listed
- 8.2 **49 CFR Class:** Not pertinent
- 8.3 **49 CFR Package Group:** Not listed.
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 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:** 143.46 286.91 for dimer (Cu₂Br₂)
- 9.3 **Boiling Point at 1 atm:** 2453°F = 1345°C = 1618.2°K
- 9.4 **Freezing Point:** 939.2°F = 504°C = 777.2°K
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 4.72 at 25°C
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** Currently not available
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** Currently not available
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Currently not available
- 9.17 **Heat of Fusion:** 16.03 cal/g
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

NOTES

COPPER BROMIDE (OUS)

CBD

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
	C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

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	1062	0.019		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E