

# CADMIUM BROMIDE

CMB

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Cadmium bromide tetrahydrate		Solid	White	Odorless
Mixes with water.				
<p><b>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.</b>                  Wear dust respirator and rubber overclothing (including gloves).                  Notify local health and pollution control agencies.                  Protect water intakes.</p>				
<b>Fire</b>	Not flammable. POISONOUS GASES MAY BE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus.			
<b>Exposure</b>	CALL FOR MEDICAL AID. DUST POISONOUS IF INHALED. 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.  SOLID POISONOUS IF SWALLOWED. Irritating to skin and eyes. If swallowed will cause nausea, vomiting 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.			

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b>                  Dilute and disperse                  Stop discharge</p>	<p><b>2. CHEMICAL DESIGNATIONS</b>                  2.1 CG Compatibility Group: Not listed.                  2.2 Formula: CdBr<sub>2</sub>·4H<sub>2</sub>O                  2.3 IMO/UN Designation: Not listed                  2.4 DOT ID No.: 2570                  2.5 CAS Registry No.: 7789-42-6                  2.6 NAERG Guide No.: 154                  2.7 Standard Industrial Trade Classification: 52329</p>
<p><b>3. HEALTH HAZARDS</b></p> <p>3.1 <b>Personal Protective Equipment:</b> Dust mask; goggles or face shield; rubber gloves</p> <p>3.2 <b>Symptoms Following Exposure:</b> Inhalation causes coughing, sneezing, symptoms of lung damage. Ingestion produces severe toxic symptoms; both kidney and liver injuries may occur. Contact with eyes causes irritation.</p> <p>3.3 <b>Treatment of Exposure:</b> INHALATION: remove patient to fresh air; seek medical attention. INGESTION: induce vomiting; allay GI irritation by giving milk or egg whites at frequent intervals; perform gastric lavage; seek medical attention. EYES: flush with water for at least 15 min.</p> <p>3.4 <b>TLV-TWA:</b> 0.01 mg Cd/m<sup>3</sup> inhalable; 0.002 mg Cd/m<sup>3</sup> respirable fraction.</p> <p>3.5 <b>TLV-STEL:</b> Not listed.</p> <p>3.6 <b>TLV-Ceiling:</b> Not listed.</p> <p>3.7 <b>Toxicity by Ingestion:</b> Grade 4; LD<sub>50</sub> &lt;50 mg/kg</p> <p>3.8 <b>Toxicity by Inhalation:</b> Currently not available.</p> <p>3.9 <b>Chronic Toxicity:</b> Delayed liver, kidney, and lung damage has followed respiratory exposure to cadmium salts in industry.</p> <p>3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Currently not available</p> <p>3.11 <b>Liquid or Solid Characteristics:</b> Currently not available</p> <p>3.12 <b>Odor Threshold:</b> Currently not available</p> <p>3.13 <b>IDLH Value:</b> 9 mg/m<sup>3</sup> as Cd</p> <p>3.14 <b>OSHA PEL-TWA:</b> 0.005 mg/m<sup>3</sup> as Cd</p> <p>3.15 <b>OSHA PEL-STEL:</b> Not listed.</p> <p>3.16 <b>OSHA PEL-Ceiling:</b> Not listed.</p> <p>3.17 <b>EPA AEGL:</b> 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:** Toxic cadmium oxide fumes 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
- 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):** None
- 6.4 **Food Chain Concentration Potential:**  
Concentrated by shellfish.
- 6.5 **GESAMP Hazard Profile:** Not listed

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial, 99.5%; Anhydrous, 99+%
- 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:** Not listed
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 8.7 **EPA Pollution Category:** A
- 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:** 344.27
- 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:** >1.1 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:** -2.3 Btu/lb = -1.3 cal/g = -0.054 X 10<sup>3</sup> J/kg
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** 18.4 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
34	58.600		N O T		N O T		N O T
36	60.960		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	63.310						
40	65.669						
42	68.020						
44	70.379						
46	72.730						
48	75.089						
50	77.450						
52	79.799						
54	82.160						
56	84.509						
58	86.870						
60	89.219						
62	91.580						
64	93.929						
66	96.290						
68	98.650						
70	101.000						
72	103.400						
74	105.700						
76	108.099						
78	110.400						
80	112.799						
82	115.099						
84	117.500						