Material Safety Data Sheet
Barium chloride

Section 1 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white solid.

**Warning!** Harmful if swallowed. Causes eye and skin irritation. Causes severe respiratory tract irritation. May cause lung damage. May cause cardiac disturbances. May cause kidney damage.

**Target Organs:** Kidneys, heart, respiratory system, muscles, cardiovascular system.

**Potential Health Effects**

**Eye:** Contact produces irritation, tearing, and burning pain. May cause conjunctivitis.

**Skin:** Causes skin irritation. Prolonged contact with the skin, especially if the skin is wet or moist, causes necrosis.

**Ingestion:** Harmful if swallowed. May cause kidney damage. The barium ion is a muscle poison causing stimulation and then paralysis. Initial symptoms are gastrointestinal, including nausea, vomiting, colic, and diarrhea, followed by myocardial and general muscular stimulation with tingling in the extremities. Barium chloride affects the muscles (especially the smooth muscles of the cardiovascular and respiratory systems), causes salivation, tingling of the mouth or face, convulsions, numbness, muscle paralysis, respiratory failure, slow pulse rate, pulmonary edema, irregular heart beat, potassium deficiency in the blood.

**Inhalation:** Causes respiratory tract irritation. May cause effects similar to those described for ingestion.

**Chronic:** Chronic exposure may cause effects similar to those of acute exposure.

Section 2 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

**Notes to Physician:** Do NOT use mouth-to-mouth resuscitation.

Section 3 - Personal Protection
**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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**Section 4 - Physical and Chemical Properties**

**Physical State:** Solid  
**Appearance:** white  
**Odor:** odorless  
**pH:** 5-8 (5% soln)  
**Boiling Point:** 1560 deg C  
**Freezing/Melting Point:** 962 deg C  
**Decomposition Temperature:** Not available.  
**Solubility:** 59% @ 100°C

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**Section 5 - Stability and Reactivity**

**Chemical Stability:** Stable.  
**Conditions to Avoid:** Dust generation, excess heat.  
**Incompatibilities with Other Materials:** Incompatible with bromine trifluoride and 2-furan percarboxylic acid (explodes at room temperature). Reacts violently with sulfuric acid.  
**Hazardous Decomposition Products:** Hydrogen chloride, chlorine.  
**Hazardous Polymerization:** Has not been reported.