

## Safety Data Sheet

### 1. IDENTIFICATION

<b>Product Identifier:</b>	<b>Barium Chloride, Dihydrate</b>
<b>Product Code(s):</b>	B1000
<b>Synonyms:</b>	Barium Dichloride, Dihydrate; Muriate of Barium, Dihydrate
<b>Recommended Use:</b>	For manufacturing, industrial, and laboratory use only. Use as a catalyst or as a laboratory solute.
<b>Uses Advised Against:</b>	Not for food, drug, or household use.
<b>Supplier:</b>	Rocky Mountain Reagents, Inc. 4621 Technology Drive, Golden, CO 80403 Phone: (303) 762-0800 Fax: (303) 762-1240
<b>Emergency Phone Number:</b>	(800) 255-3924 (CHEM-TEL)

### 2. HAZARDS IDENTIFICATION

<b>Hazard Classifications:</b>	Acute Toxicity – Oral: Category 3 Acute Toxicity – Inhalation: Category 4
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**Signal Word:** DANGER

**Hazard Statements:** Toxic if swallowed.  
Harmful if inhaled.

**Pictograms:**



**Precautionary Statements:**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink, or smoke when using this product.  
Avoid breathing dust.  
Use only outdoors or in a well-ventilated area.

**Response:** If swallowed: Immediately call a poison center or doctor. Rinse mouth.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.

**Storage:** Store locked up.

**Disposal:** Dispose of contents and container in accordance with local, regional, national, and international regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Toxicity Statement:** Not applicable.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Barium Chloride, Dihydrate	Barium Dichloride, Dihydrate	10326-27-9	BaCl <sub>2</sub> • 2H <sub>2</sub> O	≥ 99.0

**Trade Secret Statement:** Not applicable.

### 4. FIRST AID MEASURES

#### First Aid Procedures:

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately if you feel unwell.

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Rinse mouth with water. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:** Remove contaminated clothing and shoes immediately. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Call a physician if symptoms occur.

**Eye Contact:** Check for and remove contact lenses, if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician if symptoms occur.

**General Advice:** Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that those providing first aid and medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Symptoms and Effects:** Irritation, nausea, vomiting, blood in stool, increased salivation, myasthenia, abdominal pain, cramping, paralysis, increased heart rate, increased blood pressure. Toxic if swallowed. Harmful if inhaled. May be harmful if absorbed through the skin or exposed to the eyes.

**Immediate Medical Care/ Special Treatment:** Get medical attention immediately if feeling unwell or concerned. Treat symptomatically.

### 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Water spray, dry powder, alcohol resistant foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream, as it may scatter and spread fire.

<b>Hazardous Combustion Products:</b>	Barium oxides, hydrogen chloride.
<b>Specific Hazards:</b>	Excessive thermal conditions may cause decomposition and yield toxic and/or corrosive fumes.
<b>Special Protective Equipment/Precautions for Firefighters:</b>	As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions and Protective Equipment:</b>	Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.
<b>Emergency Procedures:</b>	In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).
<b>Methods for Containment:</b>	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover solid when possible.
<b>Methods for Cleanup:</b>	Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be diluted with water. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes, and clothing. Avoid generation of product dust. Do not breathe product dust. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.
<b>Storage:</b>	Store in a cool, dry, ventilated area. Store in a segregated and approved area away from heat and incompatible materials (see section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Exposure Limits:</b>	Barium: OSHA (PEL): 0.5 mg/m <sup>3</sup> ACGIH (TLV): 0.5 mg/m <sup>3</sup>
<b>Engineering Controls:</b>	Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Measures:**

**Eye/Face Protection:** Wear safety glasses with side shields or goggles. Maintain approved eye wash station and accessible rinse facilities in work area.

**Skin Protection:** Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

**Respiratory Protection:** An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

**Specific Requirements for Personal Protective Equipment:**

Ensure that glove material is compatible with this product. This information is available from glove manufacturers. If respiratory protection is required, use full-face protection as well.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

*Unless otherwise indicated, all properties are given at 25 °C and standard pressure.*

<b>Appearance:</b>	White, opaque solid.
<b>Odor:</b>	Odorless.
<b>Odor Threshold:</b>	No information found.
<b>Formula Weight:</b>	244.27
<b>pH:</b>	No information found.
<b>Melting/Freezing Point:</b>	963 °C
<b>Boiling Point/Range:</b>	1560 °C
<b>Decomposition Temperature:</b>	No information found.
<b>Flash Point:</b>	Not applicable.
<b>Auto-ignition Temperature:</b>	Not applicable.
<b>Flammability:</b>	Not flammable.
<b>Flammability/Explosive Limits:</b>	Not applicable.
<b>Solubility:</b>	358 g / 1 L water at 20 °C
<b>Vapor Pressure:</b>	No information found.
<b>Vapor Density:</b>	No information found.
<b>Specific Gravity:</b>	3.097 (Water = 1)
<b>Evaporation Rate:</b>	No information found.
<b>Viscosity:</b>	No information found.
<b>Partition Coefficient (n-octanol/water):</b>	No information found.

**10. STABILITY AND REACTIVITY**

**Reactivity Data:** No information found.

**Chemical Stability:** Stable under normal conditions.

<b>Conditions to Avoid:</b>	Excessive heat, incompatible materials.
<b>Incompatible Materials:</b>	Strong oxidizers, bromine trifluoride.
<b>Hazardous Decomposition Products:</b>	Barium oxides, hydrogen chloride.
<b>Possibility of Hazardous Reactions:</b>	May react vigorously or violently with the incompatible materials listed above. Excessive thermal conditions may yield hazardous decomposition products.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Routes of Exposure:</b>	Inhalation, ingestion, skin contact, eye contact.
<b>Acute Effects:</b>	Toxic if swallowed. Harmful if inhaled. May be harmful if absorbed through the skin or exposed to the eyes.
<b>Chronic Effects:</b>	No information found.
<b>Toxicological Data:</b>	LD <sub>50</sub> Oral, Rat: 118 mg/kg LC <sub>50</sub> Inhalation, Rat: < 5.0 mg/L 4 h
<b>Symptoms of Exposure:</b>	Irritation, nausea, vomiting, blood in stool, increased salivation, myasthenia, abdominal pain, cramping, paralysis, increased heart rate, increased blood pressure.
<b>Carcinogenic Effects:</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicological Data:</b>	EC <sub>50</sub> , Water Flea (Daphnia magna): 21.9 mg/L 48 h
<b>Persistence and Degradability:</b>	Expected to bioaccumulate.
<b>Environmental Effects:</b>	May be harmful to aquatic organisms. Avoid release to the environment.

## 13. DISPOSAL INFORMATION

<b>Disposal Instructions:</b>	All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8).
<b>Contaminated Packaging:</b>	Because emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.
<b>Waste Codes:</b>	No information found.

## 14. TRANSPORT INFORMATION

**DOT:**

**UN Number:** UN1564

**Proper Shipping Name:** Barium compounds, n.o.s. (Barium chloride)

**Hazard Class:** 6.1

**Packing Group:** III

**ERG Number:** 154

**Environmental Hazard Regulations:** No information found.

**Other Transport Precautions:** No information found.

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations:

**OSHA:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Inventory:** All components of this product are on the US TSCA Inventory.

### U.S. EPCRA (SARA Title III):

**Section 302:** No information found.

**Sections 311/312:**

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	No
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

**Section 313:** No information found.

**CERCLA Reportable Quantities:** No information found.

### International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

\*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country(s).

## 16. OTHER INFORMATION

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