

**Barium Chloride Dihydrate**

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**1. PRODUCT AND COMPANY IDENTIFICATION**

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**Product Name:** Barium Chloride Dihydrate

**Synonyms/Generic Names:** Barium Dichloride Dihydrate

**SDS Number:** 80.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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**2. HAZARDS IDENTIFICATION**

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**OSHA Hazards:** Target organ effect, Toxic by inhalation, Toxic by ingestion

**Target Organs:** Heart, Nerves, Kidney, Gastrointestinal tract, Bone marrow, Spleen, Liver

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 3
Acute toxicity, Inhalation	Category 4

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H301	Toxic if swallowed.
H332	Harmful if inhaled.

**Precautionary Statements:**

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
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### Potential Health Effects

<b>Eyes</b>	May cause eye irritation.
<b>Inhalation</b>	Toxic if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Ingestion</b>	Toxic if swallowed.

### NFPA Ratings

<b>Health</b>	2
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

### HMIS Ratings

<b>Health</b>	2
<b>Fire</b>	0
<b>Reactivity</b>	0
<b>Personal</b>	E

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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<b>Component</b>	<b>Weight %</b>	<b>CAS #</b>	<b>EINECS# / ELINCS#</b>	<b>Formula</b>	<b>Molecular Weight</b>
Barium Chloride, Dihydrate	100	10326-27-9	233-788-1	BaCl <sub>2</sub> ·2H <sub>2</sub> O	244.26 g/mol

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## 4. FIRST-AID MEASURES

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<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

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## 5. FIRE-FIGHTING MEASURES

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<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (hydrogen chloride gas, barium oxide) under fire conditions. (See also Stability and Reactivity section).

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Barium	0.5 mg/m <sup>3</sup>	TLV	ACGIH
	0.5 mg/m <sup>3</sup>	PEL	OSHA
	0.5 mg/m <sup>3</sup>	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance (physical state, color, etc.)	White crystalline solid
Odor	Odorless
Odor threshold	Not Available
pH	5.0-8.0 @ 50g/l @ 25°C (77°F)
Melting point/freezing point	963°C (1,765°F)
Initial boiling point and boiling range	1,560°C (2,840°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	Not Available
Vapor density	Not Available

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Relative density	Not Available
Solubility (ies)	Soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Not Available
<b>Incompatible Materials</b>	Oxidizers, acids.
<b>Hazardous Decomposition Products</b>	Hydrogen chloride gas, barium oxide.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	Not Available
<b>Other</b>	LD50 Intraperitoneal – mouse – 51 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	A4: Not classifiable as a human carcinogen (Barium Chloride).
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, redness, swelling, pain.
<b>Eyes</b>	Irritation, redness, tearing, pain.
<b>Respiratory</b>	Irritation, redness, coughing, burning sensation, wheezing, laryngitis, shortness of breath, headache.
<b>Ingestion</b>	Abdominal pain, diarrhea, convulsions, nausea, vomiting.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN1564, Barium compounds, n.o.s., (barium chloride), 6.1, pg III
TDG	UN1564, BARIUM COMPOUNDS, N.O.S., (BARIUM CHLORIDE), 6.1, pg III
IMDG	UN1564, BARIUM COMPOUNDS, N.O.S., (BARIUM CHLORIDE), 6.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1564, Barium compounds, n.o.s., (barium chloride), 6.1, pg III

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Listed: Barium Chloride, Dihydrate
SARA 312	Listed: Barium Chloride
SARA 313	Listed: Barium Chloride
WHMIS Canada	Class D-1B: Toxic Material Causing Immediate and Serious Toxic Effects

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	06-13-2012
Revision 2	06/20/2013

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