



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
OSHA HCS2012

Revision date 29-Apr-2024

Revision Number 1.01

## 1. Identification

### Product identifier

**Product Name** Barium Chloride Dihydrate

### Other means of identification

**Product Code(s)** TRC-B118680-100G

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** This product is for research and development only

**Restrictions on use** Not to be used for human or animal consumption

### Details of the supplier of the safety data sheet

#### Supplier Address

VHG  
LGC Standards  
276 Abby Road  
Manchester, NH 03103  
UNITED STATES OF AMERICA

Tel : +1 (603) 622-7660  
Fax : +1 (603) 622-5180  
Email : lgcusa@lgcgroup.com

Web : lgcstandards.com

**E-mail** sds-request@lgcgroup.com

### Emergency telephone number

#### **Emergency Telephone**

For Hazardous Materials or Dangerous Goods Incident  
Spill, Leak, Fire Exposure, or Accident  
Call CHEMTREC:  
USA & Canada 1-800-424-9300  
Rest of the world +1 703-741-5970

## 2. Hazard(s) identification



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## Classification

Classified according to OSHA.

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Specific target organ toxicity (single exposure)	Category 1 Category 3

## Hazards not otherwise classified (HNOC)

Not applicable

## Label elements

### **Danger**

### Hazard statements

Classified according to OSHA.

Toxic if swallowed

Harmful if inhaled

Causes damage to organs

May cause respiratory irritation



### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

### **Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor if you feel unwell

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Rinse mouth

### **Precautionary Statements - Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed



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## Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

## Other information

Harmful to aquatic life.

## 3. Composition/information on ingredients

### Substance

Formula BaCl<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

Chemical name	CAS No.	Weight-%	Trade secret
Barium chloride, dihydrate	10326-27-9	100	*

## 4. First-aid measures

### Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. If breathing has stopped, give artificial respiration. Get medical attention immediately. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

### Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing.

### Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.



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## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid generation of dust. Do not breathe dust.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.
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## Conditions for safe storage, including any incompatibilities

### Storage Conditions

Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Barium chloride, dihydrate 10326-27-9	TWA: 0.5 mg/m <sup>3</sup> Ba	TWA: 0.5 mg/m <sup>3</sup> Ba regulated under CAS 7440-39-3 (vacated) TWA: 0.5 mg/m <sup>3</sup> Ba	IDLH: 50 mg/m <sup>3</sup> Ba TWA: 0.5 mg/m <sup>3</sup> Ba TWA: 0.5 mg/m <sup>3</sup> except Barium sulfate Ba

### Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

#### Hand protection

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

#### Skin and body protection

Wear suitable protective clothing.

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### Environmental exposure controls

Do not allow into any sewer, on the ground or into any body of water.

#### General hygiene considerations

Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this



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product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state	Solid
Appearance	Solid
Color	white; to; off-white
Odor	No information available
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	244.26
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

## 10. Stability and reactivity

Reactivity	No information available.
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**Chemical stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid** Excessive heat.

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available. Toxic if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Coughing and/ or wheezing.

### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Barium chloride, dihydrate 10326-27-9	= 118 mg/kg ( Rat )	-	> 1.1 mg/L ( Rat ) 243 min

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** No information available.



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Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed. May cause respiratory irritation.

STOT - repeated exposure No information available.

Target organ effects Heart, Respiratory system, Eyes, Skin, Central nervous system.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

## 12. Ecological information

Ecotoxicity Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Barium chloride, dihydrate 10326-27-9	-	-	-	EC50: =14.5mg/L (48h, Daphnia magna)

Persistence and degradability No information available.





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**Bioaccumulation** There is no data for this product.

**Other adverse effects** No information available.

## 13. Disposal considerations

### Disposal methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. Transport information

### DOT

UN number or ID number	UN2811
Extended proper shipping name	Toxic solids, organic, n.o.s. (Barium chloride, dihydrate)
Transport hazard class(es)	6.1
Packing group	III
Special Provisions	IB8, IP3, T1, TP33
DOT Marine Pollutant	NP
Description	UN2811, Toxic solids, organic, n.o.s. (Barium chloride, dihydrate), 6.1, III
Emergency Response Guide Number	154

### TDG

UN number or ID number	UN2811
UN proper shipping name	Toxic solid, organic, n.o.s. (Barium chloride, dihydrate)
Transport hazard class(es)	6.1
Packing group	III
Special Provisions	16
Marine pollutant	NP
Description	UN2811, Toxic solid, organic, n.o.s. (Barium chloride, dihydrate), 6.1, III

### MEX

UN number or ID number	UN2811
UN proper shipping name	Toxic solid, organic, n.o.s. (Barium chloride, dihydrate)
Transport hazard class(es)	6.1
Packing group	III



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**Technical Name** Barium chloride, dihydrate  
**Description** UN2811, Toxic solid, organic, n.o.s. (Barium chloride, dihydrate), 6.1, III  
**Special Provisions** 223, 274

## IATA

**UN number or ID number** UN2811  
**UN proper shipping name** Toxic solid, organic, n.o.s. (Barium chloride, dihydrate)  
**Transport hazard class(es)** 6.1  
**Packing group** III  
**Technical Name** Barium chloride, dihydrate  
**Description** UN2811, Toxic solid, organic, n.o.s. (Barium chloride, dihydrate), 6.1, III  
**Special Provisions** A3, A5  
**ERG Code** 6L

## IMDG

**UN number or ID number** UN2811  
**UN proper shipping name** Toxic solid, organic, n.o.s. (Barium chloride, dihydrate)  
**Transport hazard class(es)** 6.1  
**Packing group** III  
**EmS-No.** F-A, S-A  
**Special Provisions** 223, 274  
**Marine pollutant** NP  
**Description** UN2811, Toxic solid, organic, n.o.s. (Barium chloride, dihydrate), 6.1, III

## 15. Regulatory information

### International Inventories

#### TSCA

LGC, to the best of its ability, has confirmed that the chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb 2019, as amended Feb 2021."

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
Barium chloride, dihydrate	10326-27-9	Present	Active

**DSL/NDL** Contact supplier for inventory compliance status.  
**EINECS/ELINCS** Contact supplier for inventory compliance status.  
**ENCS** Contact supplier for inventory compliance status.  
**IECSC** Contact supplier for inventory compliance status.  
**KECL** Contact supplier for inventory compliance status.  
**PICCS** Contact supplier for inventory compliance status.  
**AIIC** Contact supplier for inventory compliance status.



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## **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

## **US Federal Regulations**

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Barium chloride, dihydrate - 10326-27-9	1.0

### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## **US State Regulations**

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

## **U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Barium chloride, dihydrate 10326-27-9	X	-	X



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## U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

## 16. Other information

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 3 *	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal protection</b> X
<i>Chronic Hazard Star Legend</i>		<i>* = Chronic Health Hazard</i>		

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AELG(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

Revision date 29-Apr-2024

Revision Note No information available.

### Disclaimer

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other



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substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

**End of Safety Data Sheet**