

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Barium Chloride, Dihydrate
CAS-No.	: 10326-27-9
Product code	: LC11560
Formula	: BaCl ₂ ·2H ₂ O
Synonyms	: barium dichloride, dihydrate / muriate of barium, dihydrate

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Chemical intermediate Insecticide
------------------------------	--

1.3. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 or +1-703-741-5970
------------------	---

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Hazardous to the aquatic environment – Acute Hazard Category 3	H402	Harmful to aquatic life
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US)	: Danger
Hazard statements (GHS US)	: H301 - Toxic if swallowed
Precautionary statements (GHS US)	: P264 - Wash exposed skin thoroughly after handling.
	: P270 - Do not eat, drink or smoke when using this product.
	: P273 - Avoid release to the environment.
	: P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	: P330 - If swallowed, rinse mouth
	: P405 - Store locked up.
	: P501 - Dispose of contents/container to comply with local, state and federal regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification	: None under normal conditions.
--	---------------------------------

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS US classification
Barium Chloride, Dihydrate (Main constituent)	CAS-No.: 10326-27-9	100	Acute Tox. 3 (Oral), H301 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice.
First-aid measures after ingestion	: Rinse mouth with water. Give nothing to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Doctor: administration of chemical antidote. Doctor: gastric lavage.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Toxic if swallowed. Harmful if inhaled.
Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing.
Symptoms/effects after eye contact	: Redness of the eye tissue.
Symptoms/effects after ingestion	: Vomiting. Nausea. Abdominal pain. Blood in stool. Bleeding of the gastrointestinal tract. Increased salivation. Myasthenia. Cramps/uncontrolled muscular contractions. Paralysis. Disturbances of heart rate. High arterial pressure.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD. Non combustible.
Hazardous decomposition products in case of fire : On burning: release of toxic and corrosive gases/vapours (hydrogen chloride).

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting : Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). Reactivity hazard: self-contained breathing apparatus (EN 136 + EN 137). Reactivity hazard: gas-tight suit (EN 943).
Emergency procedures : Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release : In case of dust production: keep upwind. In case of dust production: consider evacuation. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment : Do not breathe dust. Equip cleanup crew with proper protection.
Emergency procedures : Stop release. Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water.
Methods for cleaning up : Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water and soap solution. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Pulverization rapidly increases toxic concentration.
Precautions for safe handling	: Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. strong acids.
Storage area	: Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: steel. stainless steel. paper with plastic inner lining. cardboard. synthetic material. MATERIAL TO AVOID: aluminium.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Barium Chloride, Dihydrate (10326-27-9)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	0.5 mg/m ³
---------------	-----------------------

USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) [1]	0.5 mg/m ³
--------------------	-----------------------

USA - NIOSH - Occupational Exposure Limits

NIOSH REL (TWA)	0.5 mg/m ³
-----------------	-----------------------

8.2. Appropriate engineering controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
----------------------------------	---

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Chemical resistant apron.

Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. Chloroprene rubber. Chlorinated polyethylene. neoprene. PVC. viton

Hand protection:

Gloves

Eye protection:

Safety glasses (EN 166). In case of dust production: protective goggles (EN 166)

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin and body protection:

Protective clothing (EN 14605 or EN 13034)

Respiratory protection:

Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus (EN 136 + EN 137)

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Powder. Crystalline powder. Grains.
Color	: Colourless to white
Odor	: Odorless
Odor threshold	: No data available
pH	: 5 – 8 (5 %)
Melting point	: 963 °C
Freezing point	: No data available
Boiling point	: 1560 °C
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.1 hPa (20 °C)
Relative vapor density at 20 °C	: Not applicable
Relative density	: 3.1
Density	: 3100 kg/m ³
Molecular mass	: 244.28 g/mol
Solubility	: Soluble in water. Water: 36 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with (strong) oxidizers.

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Incompatible materials. Moisture.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Hydrogen chloride. barium.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Barium Chloride, Dihydrate (10326-27-9)

LD50 oral rat	118 mg/kg (Rat, Oral)
ATE US (oral)	118 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 5 – 8 (5 %)

Serious eye damage/irritation : Not classified
pH: 5 – 8 (5 %)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Likely routes of exposure : Inhalation. Skin and eye contact.

Potential Adverse human health effects and symptoms : Toxic if swallowed. Harmful if inhaled.

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing.

Symptoms/effects after eye contact : Redness of the eye tissue.

Symptoms/effects after ingestion : Vomiting. Nausea. Abdominal pain. Blood in stool. Bleeding of the gastrointestinal tract. Increased salivation. Myasthenia. Cramps/uncontrolled muscular contractions. Paralysis. Disturbances of heart rate. High arterial pressure.

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Harmful to crustacea. Slightly harmful to fishes. Harmful to aquatic plants. Groundwater pollutant. Mild water pollutant (surface water). Not harmful to bacteria.

Barium Chloride, Dihydrate (10326-27-9)

LC50 fish 1	870 mg/l (Leuciscus idus)
EC50 Daphnia 1	21.9 mg/l (48 h, Daphnia magna, Anhydrous form)

12.2. Persistence and degradability

Barium Chloride, Dihydrate (10326-27-9)

Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Barium Chloride, Dihydrate (10326-27-9)

Bioaccumulative potential	No bioaccumulation data available.
---------------------------	------------------------------------

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations	: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized dump (Class I). Detoxicate.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

14.1. UN number

DOT NA No	: UN1564
UN-No. (TDG)	: UN1564
UN-No. (IMDG)	: 1564
UN-No. (IATA)	: 1564

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Barium compounds, n.o.s.
Proper Shipping Name (TDG)	: BARIUM COMPOUND, N.O.S.
Proper Shipping Name (IMDG)	: barium compound, n.o.s.
Proper Shipping Name (IATA)	: barium compound, n.o.s.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: 6.1
Hazard labels (DOT)	: 6.1

TDG

Transport hazard class(es) (TDG)	: 6.1
Hazard labels (TDG)	: 6.1

IMDG

Transport hazard class(es) (IMDG)	: 6.1
Hazard labels (IMDG)	: 6.1



IATA

Transport hazard class(es) (IATA)	: 6.1
Hazard labels (IATA)	: 6.1



14.4. Packing group

Packing group (DOT)	: III
Packing group	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III

14.5. Environmental hazards

Other information	: No supplementary information available.
-------------------	---

14.6. Special precautions for user

DOT

UN-No.(DOT)	: UN1564
-------------	----------

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 200 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG)	: UN1564
TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS.
Explosive Limit and Limited Quantity Index	: 5 kg
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 100 kg

IMDG

Transport regulations (IMDG)	: Subject to the provisions
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

IATA

Transport regulations (IATA) : Subject to the provisions

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Barium Chloride, Dihydrate (10326-27-9)

SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure)
-------------------------------------	--

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Barium Chloride, Dihydrate (10326-27-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

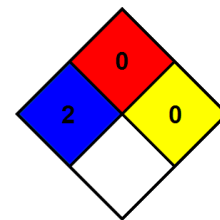
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 09/16/2022

Full text of H- and EUH-statements: see section 16

H301	Toxic if swallowed
H402	Harmful to aquatic life

NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating	
Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 0 Minimal Hazard - Materials that will not burn

Barium Chloride, Dihydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : E - Safety glasses, Gloves, Dust respirator

SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.