## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Substance name</td>
<td>Barium Chloride, Dihydrate</td>
</tr>
<tr>
<td>CAS No</td>
<td>10326-27-9</td>
</tr>
<tr>
<td>Product code</td>
<td>LC11560</td>
</tr>
<tr>
<td>Formula</td>
<td>BaCl2.2H2O</td>
</tr>
<tr>
<td>Synonyms</td>
<td>barium dichloride, dihydrate / muriate of barium, dihydrate</td>
</tr>
<tr>
<td>BIG no</td>
<td>15336</td>
</tr>
</tbody>
</table>

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

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

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

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
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 011-703-527-3887

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

- Acute Tox. 3 (Oral) H301
- Aquatic Acute 3 H402

### 2.2. Label elements

**GHS-US labelling**

- Hazard pictograms (GHS-US) :
  - GHS06

- Signal word (GHS-US) : Danger
- Hazard statements (GHS-US) :
  - H301 - Toxic if swallowed
  - H402 - Harmful to aquatic life
- 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

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

### 2.4. Unknown acute toxicity (GHS-US)

No data available
SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Chloride, Dihydrate</td>
<td>(CAS No) 10326-27-9</td>
<td>100</td>
<td>Acute Tox. 3 (Oral), H301 Aquatic Acute 3, H402</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


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. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects, both acute and delayed

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

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


4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: EXTINGUISHING MEDIA FOR SURROUNDING FIRES: All extinguishing media allowed.

Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non combustible.

Explosion hazard: DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.


5.3. Advice for firefighters

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


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. Consult "Material-handling" to select material of 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. See "Material-handling" for suitable container materials. 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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Pulverization rapidly increases toxic concentration.

Precautions for safe handling: Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

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 and ignition sources: 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.

Packaging materials: SUITABLE MATERIAL: steel. stainless steel. paper with plastic inner lining. cardboard. synthetic material. MATERIAL TO AVOID: aluminium.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material</th>
<th>USA ACGIH</th>
<th>USA OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Chloride, Dihydrate (10326-27-9)</td>
<td>ACGIH TWA (mg/m³)</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td></td>
<td>0.5 mg/m³</td>
<td>0.5 mg/m³</td>
</tr>
</tbody>
</table>
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8.2. Exposure 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.

Materials for protective clothing: GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. chlorinated polyethylene. neoprene. PVC. viton.

Hand protection: Gloves.


Skin and body protection: Protective clothing.


SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid


Molecular mass: 244.28 g/mol

Colour: Colourless to white.

Odour: Odourless.

Odour threshold: No data available

pH: 5 - 8 (5 %)

pH solution: 5 %

Relative evaporation rate (butylacetate=1): No data available

Melting point: 963 °C

Freezing point: No data available

Boiling point: 1560 °C

Flash point: Not applicable

Self ignition temperature: No data available

Decomposition temperature: No data available

Flammability (solid, gas): No data available

Vapour pressure: < 0.1 hPa

Relative vapour density at 20 °C: No data available

Relative density: 3.1

Density: 3100 kg/m³

Solubility: Soluble in water.
Water: 36 g/100ml

Log Pow: No data available

Log Kow: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Explosive properties: No data available

Oxidising properties: No data available

Explosive limits: No data available

9.2. Other information
VOC content: Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

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: Toxic if swallowed.

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50 oral rat</strong></td>
</tr>
<tr>
<td>118 mg/kg (Rat)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified

pH: 5 - 8 (5 %)

Serious eye damage/irritation: Not classified

pH: 5 - 8 (5 %)

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

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

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


Likely routes of exposure: Inhalation; Skin and eye contact

SECTION 12: Ecological information

12.1. Toxicity


<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LC50 fishes 1</strong></td>
</tr>
<tr>
<td>158 - 500 mg/l (Pisces; Lethal)</td>
</tr>
<tr>
<td><strong>EC50 Daphnia 1</strong></td>
</tr>
<tr>
<td>21.9 mg/l (48 h; Daphnia magna; Anhydrous form)</td>
</tr>
<tr>
<td><strong>LC50 fish 2</strong></td>
</tr>
<tr>
<td>870 mg/l (Leuciscus idus)</td>
</tr>
<tr>
<td><strong>Threshold limit algae 1</strong></td>
</tr>
<tr>
<td>15 mg/l (Scenedesmus subspicatus; Anhydrous form)</td>
</tr>
<tr>
<td><strong>Threshold limit algae 2</strong></td>
</tr>
<tr>
<td>34 mg/l (Algae)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
<tr>
<td>Not applicable</td>
</tr>
</tbody>
</table>
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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. Waste treatment 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. Detoxicate. Remove to an authorized dump (Class I).
--- | ---

Additional information | Hazardous waste according to Directive 2008/98/EC.

**SECTION 14: Transport information**

In accordance with DOT

Transport document description | UN1564 Barium compounds, n.o.s. (Barium Chloride), 6.1, III
--- | ---

UN-No.(DOT) | 1564
DOT NA no. | UN1564
DOT Proper Shipping Name | Barium compounds, n.o.s.
--- | ---

Department of Transportation (DOT) Hazard Classes | 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
--- | ---

Hazard labels (DOT) | 6.1 - Poison inhalation hazard

DOT Symbols | G - Identifies PSN requiring a technical name
--- | ---

Packing group (DOT) | III - Minor Danger
--- | ---

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).
TP3 - Flexible IBCs must be silt-proof and water-resistant or must be fitted with a silt-proof and water-resistant liner.
T1 - 1.5 178.274(d)(2) Normal............... 178.275(d)(2)
T1 - TP3 - 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
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DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Additional information
Other information : No supplementary information available.
State during transport (ADR-RID) : as solid.

ADR
Transport document description : UN 1564 Barium compound, n.o.s., 6.1, III, (E)
Packing group (ADR) : III
Class (ADR) : 6.1 - Toxic substances
Hazard identification number (Kemler No.) : 60
Classification code (ADR) : T5
Danger labels (ADR) : 6.1 - Toxic substances

Orange plates :

Tunnel restriction code : E

Transport by sea
UN-No. (IMDG) : 1564
Class (IMDG) : 6.1 - Toxic substances
EmS-No. (1) : F-A
EmS-No. (2) : S-A

Air transport
UN-No.(IATA) : 1564
Class (IATA) : 6 -
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations
Barium Chloride, Dihydrate (10326-27-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

15.2. International regulations

CANADA
Barium Chloride, Dihydrate (10326-27-9)
Listed on the Canadian DSL (Domestic Substances List) inventory.
WHMIS Classification Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute Tox. 3 (Oral) H301
Acute Tox. 4 (Inhalation) H332
Full text of H-phrases: see section 16

04/21/2014 EN (English)
Barium Chloride, Dihydrate
Safety Data Sheet
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Classification according to Directive 67/548/EEC or 1999/45/EC
T; R25
Xn; R20
Full text of R-phrases: see section 16

15.2.2. National regulations
Barium Chloride, Dihydrate (10326-27-9)
Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations
No additional information available

SECTION 16: Other information

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 3 (Oral)</th>
<th>Acute toxicity (oral), Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 3</td>
<td>Hazardous to the aquatic environment — AcuteHazard, Category 3</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 0 Minimal Hazard
Physical : 0 Minimal Hazard
Personal Protection : E

SDS US (GHS HazCom 2012)

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.