### SECTION 1: Identification

1.1. **Identification**

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Use of the substance/mixture</th>
<th>Chemical intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Insecticide</td>
</tr>
</tbody>
</table>

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: Hazard(s) identification

2.1. **Classification of the substance or mixture**

**GHS-US classification**

| Acute toxicity (oral) Category 3 | H301 |
| Hazardous to the aquatic environment - Acute Hazard Category 3 | H402 |

Full text of H statements : see section 16

2.2. **Label elements**

**GHS-US labeling**

| Hazard pictograms (GHS-US) | GHS06 |

<table>
<thead>
<tr>
<th>Signal word (GHS-US)</th>
<th>Danger</th>
</tr>
</thead>
</table>
| 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  
P330 - If swallowed, rinse mouth  
P405 - Store locked up  
P501 - Dispose of contents/container to comply with local, state and federal regulations  
P310 - Immediately call a poison center or doctor/physician |

2.3. **Other hazards**

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

2.4. **Unknown acute toxicity (GHS US)**

Not applicable

### SECTION 3: Composition/Information on ingredients

3.1. **Substance**

| Substance type | Mono-constituent |
Barium Chloride, Dihydrate
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

Full text of hazard classes and H-statements : 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: Adapt extinguishing media to the environment.

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

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Emergency procedures

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-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

<table>
<thead>
<tr>
<th>Material</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Chloride, Dihydrate</td>
<td>0.5 mg/m³ (Bariu</td>
<td>m</td>
<td>0.5 mg/m³</td>
</tr>
</tbody>
</table>

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.
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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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless to white</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>5 - 8 (5 %)</td>
</tr>
<tr>
<td>pH solution</td>
<td>5 %</td>
</tr>
<tr>
<td>Melting point</td>
<td>963 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>1560 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.1 hPa (20 °C)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>3.1</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>3100 kg/m³</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>244.28 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td></td>
<td>Water: 36 g/100ml</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC content</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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

Likely routes of exposure: Inhalation; Skin and eye contact
Acute toxicity: Oral: Toxic if swallowed.

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>pH: 5 - 8 (5 %)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>pH: 5 - 8 (5 %)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
</tr>
</tbody>
</table>

Symptoms/injuries after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing.
Symptoms/injuries after eye contact: Redness of the eye tissue.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC50 fish 2</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>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
</tbody>
</table>
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 : Can be considered as non hazardous waste according to Directive 2008/98/EC.

### SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Transport document description : UN1564 Barium compounds, n.o.s., 6.1, III

UN-No.(DOT) : UN1564

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


Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 6.1 - Poison inhalation hazard

**DOT Packaging Non Bulk (49 CFR 173.xxx)** : 213

**DOT Packaging Bulk (49 CFR 173.xxx)** : 240

**DOT Symbols** : G - Identifies PSN requiring a technical name

**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 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)

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 Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)** : 100 kg
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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

Other information: No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
</tr>
</tbody>
</table>

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

<table>
<thead>
<tr>
<th>Barium Chloride, Dihydrate (10326-27-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td>WHMIS Classification</td>
</tr>
</tbody>
</table>

EU-Regulations
No additional information available

National regulations

Barium Chloride, Dihydrate (10326-27-9)

Listed on the Canadian IDL (Ingredient Disclosure List)

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

Revision date: 10/28/2016

Full text of H-phrases: see section 16:

| H301 | Toxic if swallowed |
| H402 | Harmful to aquatic life |

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 - Materials that will not burn
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
```
E - Safety glasses, Gloves, Dust respirator
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