1. Identification of the substance & the company

- Chemical name: Lithium bromide water solution
- Chemical formula: LiBr
- Chemical family: Inorganic bromide
- Molecular weight: 86.85
- Type of product and use: Inorganic solution used as desiccant medium in air conditioning and cooling systems

Emergency telephone number:
- For Europe: ( +31) 115 689000
- For UK and Ireland: +44 (0) 1270 502891 (24 Hours)
- For USA: Chemtrec (800) 424-9300
- For Japan: (03)3552-1611

2. Hazards identification

Adverse human health effects: Irritant to eyes

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>Weight %</th>
<th>Index No.</th>
<th>EC No.</th>
<th>EU Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium bromide</td>
<td>47-58</td>
<td></td>
<td>231-439-8</td>
<td></td>
<td>Xi: R36</td>
</tr>
<tr>
<td>7550-35-8</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

4. First-aid measures

Eye contact: Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.

Skin contact: Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention if irritation persists.
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Inhalation
In case of mist inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.

Ingestion
If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately.

---

**NOTE:** Never give an unconscious person anything to drink.

---

Notes to the physician
Irritant
No specific antidote. Treat symptomatically and supportively. In case of ingestion induce vomiting in alert patient.

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5. Fire - fighting measures

Suitable extinguishing media
Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.

Fire fighting procedure
Cool containers with water spray. In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode

Unusual fire and explosion hazards
None known

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6. Accidental release measures

Personal precautions
Wear respirator, chemical safety goggles, rubber gloves and boots

Methods for cleaning up
Absorb on sand or vermiculite and place in closed container for disposal. Avoid access to streams, lakes or ponds. Ventilate area and wash spill site after material pickup is complete.

---

7. Handling and storage

Handling
Avoid bodily contact. Keep containers tightly closed.

Storage
Store in a dry, cool, well-ventilated area away from incompatible materials (see "materials to avoid").
8. Exposure controls / personal protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH-TLV Data</th>
<th>OSHA (PEL) Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium bromide</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>7550-35-8</td>
<td></td>
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</tr>
</tbody>
</table>

Ventilation requirements
Provide adequate ventilation.
Use local exhaust as necessary, especially under mist conditions.

Personal protective equipment:
- Respiratory protection: Approved respirator
- Hand protection: Rubber gloves
- Eye protection: Chemical safety goggles
- Skin and body protection: Body covering clothes and boots

Hygiene measures
Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

9. Physical and chemical properties

Appearance: Clear, colourless to yellow liquid, odourless
Boiling point/range: 146°C (55%)
Melting point/range: 10°C (58%)
Flash point: None
Flammable/Explosion limits: Not flammable
Auto-ignition temperature: Not available
Vapour pressure: 2.1mmHg @ 20°C (55%)
Evaporation rate (ether=1): Not available
Vapor density: Not available
Solubility:
- Solubility in water: 70 g/100ml at 101°C
- Solubility in other solvents: Miscible with methanol, ethanol (absolute), n-propanol
Specific gravity: 1.627 (55°C)
Decomposition temperature: Not available
10. Stability and reactivity

Stability
Stable under normal conditions

Materials to avoid
Strong acids.

Conditions to avoid
None known

Hazardous decomposition products
None known

Hazardous polymerization
Will not occur

11. Toxicological information

Acute toxicity:
- Rat oral LD50 >2000 mg/kg
- Rabbit dermal LD50 >2000 mg/kg
- Rat inhalation LC50 >5.1 mg/l/4 hour
- Dermal irritation (rabbit) Mild irritant
- Eye irritation (rabbit) Irritant

Dermal sensitization
Not a sensitizer

Effects of overexposure:
- Ocular Irritant
  Mild irritant to intact skin.
- Inhalation May irritate the upper respiratory tract
- Ingestion May cause vomiting, nausea, diarrhea and ataxia.
  Slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor may occur in cases of large intake.

Chronic toxicity
Repeated skin contact may cause dermatitis.
Repeated oral intake of bromides (>9 mg/kg body weight/day) may affect the central nervous system. Warning symptoms include mental dullness, slurred speech, weakened memory, apathy, anorexia, constipation, drowsiness and loss of sensitivity to touch and pain.

Mutagenicity
Not mutagenic by the Ames Test

Carcinogenicity
Not classified by IARC
Not included in NTP 11th Report on Carcinogens
12. Ecological information

Aquatic toxicity :
- 96 Hour-LC50, Fish >1000 mg/l
- 72 hour - EC50, Marine alga 751.9 mg/l
- 48 Hour-EC50,Marine Invertebrate 1527.7 mg/l

Germany, water endangering classes (WGK) 1

13. Disposal considerations

Waste disposal
Avoid access to streams, lakes or ponds.
Observe all federal, state and local environmental regulations when disposing of this material.

14. Transportation information

IMO Not regulated
ADR/RID Not regulated
ICAO/IATA Not regulated
DOT Not regulated

15. Regulatory information

EU EC No. 231-439-8
- Indication of danger Irritant, symbol required (Xi)
- R Phrases R36 - Irritating to eyes.
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- S Phrases
  S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  S39: Wear eye/face protection.

USA
  Reported in the EPA TSCA Inventory

Australia
  Listed in AICS

Canada
  Listed in DSL

China inventory
  Listed

Japanese METI
  ENCS No.1-110

Korea
  Listed in ECL (KE-22549)

New Zealand Inventory
  Listed in NZIoC

Philippines
  Listed in PICCS
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16. Other information

This data sheet contains changes from the previous version in section(s)
1(EU & ROW formats), 15

Health, Safety & Environment Policy
We will strive to ensure that our operations and products meet the needs of the present global community without compromising the ability of future generations to meet their needs
We accept that the success of our business is dependent on the supply of products and services that will benefit society whilst ensuring human safety and protection of the environment and natural resources
Within the framework of our commitment to the Responsible Care program, we will provide a healthy and safe work environment for employees and will responsibly manage our products at all stages of their life cycle in order to protect human health and the environment whilst maintaining high production standards of operation

TO MEET THIS COMMITMENT WE WILL:
Comply with or exceed applicable national and international regulatory requirements and other requirements to which we subscribe
Communicate openly and actively encourage dialogue with employees, customers and community concerning our products and operations
Implement documented management systems consistent with and for promotion of the Responsible Care ethics
Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers
Regularly assess, continually improve and responsibly manage health, safety and environmental risks associated with products and processes throughout their life-cycles
Share knowledge and expertise with others and seek to learn from and incorporate improved practices into our own operations
Educate and train employees, contractors and customers to improve their HSE performance
Communicate up-to-date information to enable our workers, customers and other interested parties to handle our products in a safe and environmentally responsible manner
Endeavor to work with customers, suppliers, distributors and contractors to foster the safe use, transport and disposal of our chemicals
Support Product Stewardship programs in cooperation with customers, distributors and transporters
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In an event of discrepancy between the contents of this MSDS and the English version of it, the English version shall prevail.

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**End of safety data sheet**