



SAFETY DATA SHEET

004-GHS

Lithium Bromide Solution

Preparation Date : 03-Oct-2017

Revision Date: 03-Oct-2017

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Name

Lithium Bromide Solution

Other means of identification
Chemical Family

Aqueous Inorganic Salt Solution

CAS-No

Mixture

Formula
LiBr/H₂O
Recommended use of the chemical and restrictions on use
General function

Used for a variety of industrial and research applications.

Uses advised against

No information available

Details of the supplier of the safety data sheet
Company

Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801

Albemarle U.S., Inc.
348 Holiday Inn Drive
Kings Mountain, NC 28086

For Non-Emergency

704-739-2501 (8AM-5PM M-Th; 8AM-12PM Fri)

'Competent Body for SDS'

Department of product safety
productsafety@albemarle.com

Emergency telephone number
Emergency Telephone Numbers

In case of emergency, call Albemarle emergency response at +1 225 344 7147

2. HAZARDS IDENTIFICATION

Classification
Skin Corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2

Skin Sensitization

Category 1

Label elements
Emergency Overview
Warning
Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause an allergic skin reaction



Physical state Liquid

Color Colorless.

Odor Odorless

Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing should not be allowed out of the workplace

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Move to fresh air.
 IF SWALLOWED: Rinse mouth Drink plenty of water

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

1% of the mixture consists of ingredient(s) of unknown toxicity
 • May be harmful if swallowed
 • May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Lithium bromide	7550-35-8	54-55

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures**General Advice**

First aid responders should pay attention to self-protection and use the recommended protective clothing. Move out of dangerous area. Take off contaminated clothing and shoes immediately.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Skin contact

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention/advice. Wash clothing before reuse.

Inhalation If inhaled, move person to fresh air. If breathing has stopped, apply artificial respiration. When symptoms persist or in all cases of doubt seek medical advice.

Ingestion IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms Irritating to eyes and skin. May cause allergic skin reaction. Ingestion of Lithium Bromide may cause rash, ringing in the ears, nausea, vomiting, diarrhea, difficulty speaking, drowsiness, twitching, visual disturbances, and coma. Symptoms of overexposure include nausea, vomiting, rashes, dizziness, drowsiness, central nervous system effects.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards Emits toxic fumes under fire conditions. Lithium Bromide solution presents a moderate contact hazard to firefighters. When involved in a fire, Lithium Bromide may decompose and produce irritating fumes and toxic gases (lithium compounds, hydrogen bromide, bromine).

Hazardous Combustion Products Lithium compounds. Hydrogen bromide. Bromine.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Wear self-contained breathing apparatus and protective suit. Wear suitable gloves and eye/face protection. Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Do not breathe fumes/vapors.

For emergency responders Use personal protective equipment as required.

Environmental Precautions

Environmental precautions No special environmental precautions required. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. Adequate disposal.

7. HANDLING AND STORAGE

Precautions for safe handling**Handling**

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Mechanical ventilation is recommended. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from heat. Keep away from incompatible materials.

Incompatible Materials

Avoid strong acids and oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

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

Component	CAS-No	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
Lithium bromide	7550-35-8	-	-	-

Component	CAS-No	Alberta	British Columbia	Ontario	Quebec
Lithium bromide	7550-35-8	-	-	-	-

Appropriate engineering controls**Engineering Controls**

Showers.
Eyewash stations.
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face Protection**

Tightly fitting safety goggles.

Skin Protection

If skin contact or contamination of clothing is likely, protective clothing should be worn.

Hand protection

Gloves resistant to chemical permeation.

Respiratory protection

Approved supplied-air respirator, in case of emergency.

General Hygiene Considerations Take off contaminated clothing and shoes immediately. Avoid contact with skin, eyes and clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of workday. Keep away from food, drink and animal feeding stuffs. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Color	Colorless.
Odor	Odorless
Odor Threshold	None
Molecular Weight	No data available
pH	Not available
Melting point/freezing point	No data available
Boiling Point/Range	~ 100 °C / 212 °F
Flash Point	Not applicable
Evaporation Rate	No data available.
Flammability (solid, gas)	No data available
Flammability Limit in Air	

Upper flammability limit:	No data available
Lower flammability limit:	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Density	1.6
Solubility(ies)	
Water Solubility	Complete. (20°C)
Solubility in other solvents	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity, kinematic	No data available
Dynamic viscosity	5.62 mPa.s (20°C)
Explosive Properties	No data available
Oxidizing Properties	No data available

10. STABILITY AND REACTIVITY

Reactivity Hazard	Not reactive under normal conditions.
Stability	Stable.
Hazardous Reactions	May react with strong acids generating heat with boiling and spattering.
Hazardous Polymerization	None under normal processing.
Conditions to Avoid	Protect from frost. Keep away from heat. Exposure to sunlight.
Materials to avoid	Strong acids and oxidizing agents.
Hazardous decomposition products	Hydrogen bromide. Bromine. Lithium compounds. To avoid thermal decomposition, do not overheat.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Eye contact	Yes.
Skin contact	Yes.
Ingestion	Ingestion is not anticipated to be a route of occupational exposure. Acute or chronic ingestion of Lithium Bromide may cause rash, ringing in the ears, nausea, vomiting, diarrhea, difficulty speaking, drowsiness, twitching, visual disturbances, and coma. Ingestion of relatively large quantities of Lithium Bromide can cause kidney damage. Lithium Bromide may also irritate or burn the mouth, throat, esophagus, and other tissues of the gastrointestinal tract.

Potential Health Effects

Acute Effects

Skin Corrosion/Irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory irritation	Inhalation of relatively large doses of Lithium Bromide may produce symptoms similar to those described for other lithium compounds (e.g., ringing in the ears, nausea, vomiting, diarrhea, drowsiness, twitching, and blurred vision). Prolonged or repeated inhalation of inorganic bromides (such as Lithium Bromide) can cause rashes, which resemble acne.

Sensitization May cause an allergic skin reaction.

STOT - single exposure No information available.

Chronic Effects

Mutagenic Effects No information available.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Carcinogens
Lithium bromide	7550-35-8	-	-	-	

Reproductive Effects No information available.

STOT - repeated exposure No information available.

Chronic Effects No information available

Other Adverse Effects

Prolonged or repeated skin exposures can lead to dermatitis (dry, red skin). Pre-existing respiratory, skin, central nervous system, and kidney conditions can be aggravated by overexposure to this product. Persons with significant cardiovascular or renal disease, sodium and water imbalance, and pre-existing hypothyroidism may also be at increased risk. Alertness may be impaired.

Aspiration hazard No information available.

Numerical measures of toxicity

Product Information

Unknown Acute Toxicity 1% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 1365 mg/kg

ATEmix (dermal) 6418 mg/kg

Component Information

Component	Rat Oral LD50:	Rabbit Dermal LD50:	Rat Dermal LD50 :	Rat Inhalation LC50:
Lithium bromide 7550-35-8	1800 mg/kg	-	>2000 mg/kg	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
Lithium bromide (CAS #: 7550-35-8)	820 mg/l	438 mg/l	364 mg/l

Persistence/Degradability Not applicable. Inorganic substance.

Bioaccumulation/ Accumulation Not likely to bioaccumulate.

Mobility in Environmental Media No information available.

Other adverse effects Avoid subsoil penetration.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Do not reuse container.

14. TRANSPORT INFORMATION**DOT**

Proper Shipping Name	NOT REGULATED FOR TRANSPORTATION
Hazard Class	Not regulated
UN No.	Not regulated
Packing Group	Not regulated
Description	Not regulated

TDG

Not regulated

IMDG/IMO

IMO Class	Not regulated
Packing Group	Not regulated
UN-No	Not regulated
Proper Shipping Name	Not regulated
EmS	Not regulated
Transport Description	Not regulated

IATA/ICAO

IATA/ICAO Class	Not regulated
Packing Group	Not regulated
UN-No	Not regulated
IATA/ICAO Labelling/Marking	Not regulated
Proper shipping name	Not regulated
Transport Description	Not regulated

15. REGULATORY INFORMATION

International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
Lithium Bromide Solution	X	X	-	X	X	X	X	X	X	X	X

(X) Complies (-) Does not Comply

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Reportable and Threshold Planning Quantities

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

State Right-to-Know

No components subject to "Right-To-Know" legislation in the following States; California, Massachusetts, New Jersey, and Pennsylvania.

16. OTHER INFORMATION

NFPA	Health 2	Flammability 0	Instability 0	Physical Hazards 0
HMIS	Health 2	Flammability 0	Physical Hazards 0	

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
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BATON ROUGE, LA. 70801
(800) 535-3030

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Disclaimer:

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

End of Safety Data Sheet