

# ALBEMARLE®

## 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/H<sub>2</sub>O

##### 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.

<b>16. OTHER INFORMATION</b>			
<b>NFPA</b>	Health 2	Flammability 0	Instability 0
<b>HMIS</b>	Health 2	Flammability 0	Physical Hazards 0

<b>NFPA</b>	Health 2	Flammability 0	Instability 0
<b>HMIS</b>	Health 2	Flammability 0	Physical Hazards 0

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

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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