
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Lithium Bromide Solution, Uninhibited
CHEMICAL FAMILY: Lithium Salts
MOLECULAR FORMULA: LiBr
ALTERNATE TRADE NAME(S): ADVACor™
GENERAL USE: Industrial Manufacturing

MANUFACTURER
FMC CORPORATION
Lithium Division
P.O. Box 795
Bessemer City, NC 28016-0795
General Information: (704) 868-5300

Emergency Telephone Numbers:
CHEMTREC (800) 424-9300
Emergency Phone (704) 629-5361 (Plant) Call Collect 24 Hr/Day
Emergency Phone (303) 595-9048 (Medical) Call Collect

2. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt. %</u> |
|----------------------|--------------|--------------|
| Lithium bromide | 7550-35-8 | 52 - 56 |
| Water | 7732-18-5 | 44 - 48 |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS:

POTENTIAL HEALTH EFFECTS:

Clear, colorless, odorless solution.
This product is severely irritating to the eyes and skin, and expected to be irritating to the mucous membranes.

COMMENTS:

(See Section 11, Toxicological Information)

4. FIRST AID MEASURES

EYES: Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

SKIN: Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor immediately.

NOTES TO MEDICAL DOCTOR:

This product is practically non-toxic by ingestion, inhalation, or dermal exposure. It is severely irritating to the skin, and expected to be severely irritating to the eyes and mucous membranes. Dermal exposure may cause sensitization. Consideration should be given to gastric lavage, with endotracheal tube in place. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

FLAMMABLE LIMITS: Upper: Not available Lower: Not available.
GENERAL HAZARD: No known physical hazard, non-combustible.
EXTINGUISHING MEDIA: Dry chemical, CO2, water spray or regular foam.
HAZARDOUS COMBUSTION PRODUCTS: None
FIRE FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency.
AUTOIGNITION TEMPERATURE: Do not breathe smoke, gases or vapors generated.
PROPERTIES CONTRIBUTING TO FLAMMABILITY: Not applicable
FLASH POINT: None
SENSITIVITY TO STATIC DISCHARGE: Not applicable
SENSITIVITY TO IMPACT: Not applicable

COMMENTS:
(See Section 10, Stability and Reactivity)

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Contain spill with absorbent. Transfer or pump into a suitable container. Dispose of waste according to local and Federal laws and regulations.
Before cleanup measures begin, review the entire MSDS with particular attention to Section 3, Emergency Overview and Potential Health Effects; and Section 8, Recommended Personal Protective Equipment.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin or clothing. Avoid breathing mist. Use with adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling.
STORAGE: Keep away from strong acids. Keep container closed. This product does not contain a corrosion inhibitor and therefore may corrode steel and stainless steel containers and equipment.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| <u>EXPOSURE LIMITS</u> | | | | |
|-------------------------------|---------------------------|------------------------------------|--------------------------|-----------------------------------|
| <u>Chemical Name</u> | <u>TWA (ACGIH)</u> | <u>STEL/Ceiling (ACGIH)</u> | <u>PEL (OSHA)</u> | <u>STEL/Ceiling (OSHA)</u> |
| None | | | | |

ENGINEERING CONTROLS:

Use local exhaust ventilation to keep airborne concentrations below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

| | |
|--|---|
| <u>Eyes And Face:</u> | Safety glasses or goggles |
| <u>Respiratory:</u> | If product is misting or when engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for inorganic dusts and mists. |
| <u>Protective Clothing:</u> | Rubber gloves |
| <u>Work Hygienic Practices:</u> | Quick-drench eyewash and safety shower. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--|
| <u>ODOR:</u> | Odorless |
| <u>APPEARANCE:</u> | Clear, colorless liquid |
| <u>pH:</u> | 7-9 |
| <u>PERCENT VOLATILE:</u> | Not applicable |
| <u>VAPOR PRESSURE:</u> | Not applicable |
| <u>VAPOR DENSITY:</u> | Not applicable |
| <u>BOILING POINT:</u> | 140°C (284°F) |
| <u>MELTING POINT:</u> | Not applicable |
| <u>SOLUBILITY IN WATER:</u> | Miscible in any proportion |
| <u>EVAPORATION RATE(Butyl Acetate = 1):</u> | Not applicable |
| <u>SPECIFIC GRAVITY:</u> | 1.6 g/cc at 25°C |
| <u>MOLECULAR WEIGHT:</u> | 86.84 |
| <u>COEFF. OIL/WATER:</u> | Not available |
| <u>ODOR THRESHOLD:</u> | Not applicable |
| <u>FLAMMABLE LIMITS:</u> | Upper: Not available Lower: Not available. |
| <u>FLASH POINT:</u> | Not applicable |
| <u>AUTOIGNITION TEMPERATURE:</u> | Not applicable |
| <u>EXPLOSIVE PROPERTIES:</u> | Not explosive |
| <u>OXIDIZING PROPERTIES:</u> | Not an oxidizer |

10. STABILITY AND REACTIVITY

| | |
|---|---------------------------|
| <u>CONDITIONS TO AVOID:</u> | Contact with strong acids |
| <u>STABILITY:</u> | Stable |
| <u>POLYMERIZATION:</u> | Will not occur |
| <u>HAZARDOUS DECOMPOSITION PRODUCTS:</u> | None |
| <u>INCOMPATIBLE MATERIALS:</u> | None |

11. TOXICOLOGICAL INFORMATION

| | | |
|--------------------------------|---|----------------------|
| <u>Eye Contact:</u> | Severely irritating (rabbit) (52 - 54% LiBr aqueous solution) | [FMC Study I96-2080] |
| <u>Skin Contact:</u> | Severely irritating (rabbit) (52 - 54% LiBr aqueous solution) | [FMC Study I96-2082] |
| <u>Skin Absorption:</u> | Dermal LD ₅₀ : > 2000 mg/kg (rat) (52 - 54% LiBr aqueous solution) | [FMC Study I96-2079] |

Ingestion: Oral LD₅₀: > 2000 mg/kg (rat) (52 - 54% LiBr aqueous solution) [FMC Study I96-2081]

Inhalation: Inhalation LC₅₀: > 15.57 mg/L/4 hr. (rat) (52 - 54% LiBr aqueous solution) [FMC Study I96-2087]

Acute Effects From Overexposure:

This product is practically non-toxic by ingestion, inhalation, or dermal exposure. It is severely irritating to the eyes and skin, and expected to be irritating to the mucous membranes. Causes skin sensitization in lab animals, and may produce similar effects in humans. Large doses of lithium bromide may cause central nervous system depression.

Chronic Effects From Overexposure:

No data available for the product. Chronic absorption of lithium bromide may cause central nervous system disturbances (drowsiness, lack of coordination, ataxia, depression, psychoses) and skin rashes.

Sensitization: Sensitizing (guinea pig) [FMC Study I96-2083] (52 - 54% LiBr aqueous solution)

Carcinogenicity: EH40: Not listed.
IARC: Not listed.
OSHA: Not considered a carcinogen under OSHA.
ACGIH: Not listed

Mutagenicity: No

Reproductive Toxicity: No

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Lithium bromide:
48 hr. EC50 = 364 mg/L (daphnia magna) [FMC I97-2170]
96 hr. LC50 > 976 mg/L (menidia beryllina) [FMC I97-2171]
96 hr. LC50 = 438 mg/L (rainbow trout) [FMC I97-2172]
96 hr. LC50 > 995 mg/L (mysid shrimp) [FMC I97-2173]

Chemical Fate Information:

LiBr exists as the inorganic ions of lithium and bromide in aqueous solutions. LiBr is not biodegraded, bioaccumulated or photodegraded.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of waste according to local and Federal laws and regulations.

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: None

CLASSIFICATION: None

LABELS: None

UN NUMBER: None

PACKING GROUP: None
FLASH POINT: Not applicable
CUSTOM TARIFF NO: 2827.59.0000
MARINE POLLUTANT: No
PIH: Not designated Poison Inhalation Hazard by US DOT.

15. REGULATORY INFORMATION

UNITED STATES

SECTION 311 HAZARD CATEGORY (40 CFR 370): Immediate (Acute) Health Hazard
SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372): This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-To-Know Act of 1986.

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

Not listed

CERCLA HAZARDOUS SUBSTANCE (40 CFR 302.4):

Not listed

TSCA SEC 12B EXPORT NOTIFICATION:

This product is not subject to TSCA 12 (b) Export Notification Requirements.

TSCA INVENTORY STATUS (40 CFR 710):

Listed

CANADA

WHMIS:

Product Identification No.: None
Hazard Classification: Class D, Division 2B (Eye and skin irritant, skin sensitizer)
Ingredient Disclosure List: Not listed

16. OTHER INFORMATION

REVISION SUMMARY: Revision No: 9: Hazard review conducted. No changes made

NFPA RATING

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0
SPECIAL: none

This MSDS has been prepared to meet U. S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.
type 1a

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