



## Material Safety Data Sheet

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MSDS Ref. No: QS-MSD-135  
Version: US/Canada  
Date Approved: 03/30/05  
Revision No: 7

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Lithium Bromide Solution, Blend Inhibited  
**CHEMICAL FAMILY:** Lithium Salts  
**MOLECULAR FORMULA:** LiBr  
**ALTERNATE TRADE NAME(S):** ADVAGuard® 750 Lithium Bromide Solution  
**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:** Clear, colorless, odorless solution.  
**POTENTIAL HEALTH EFFECTS:** 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)

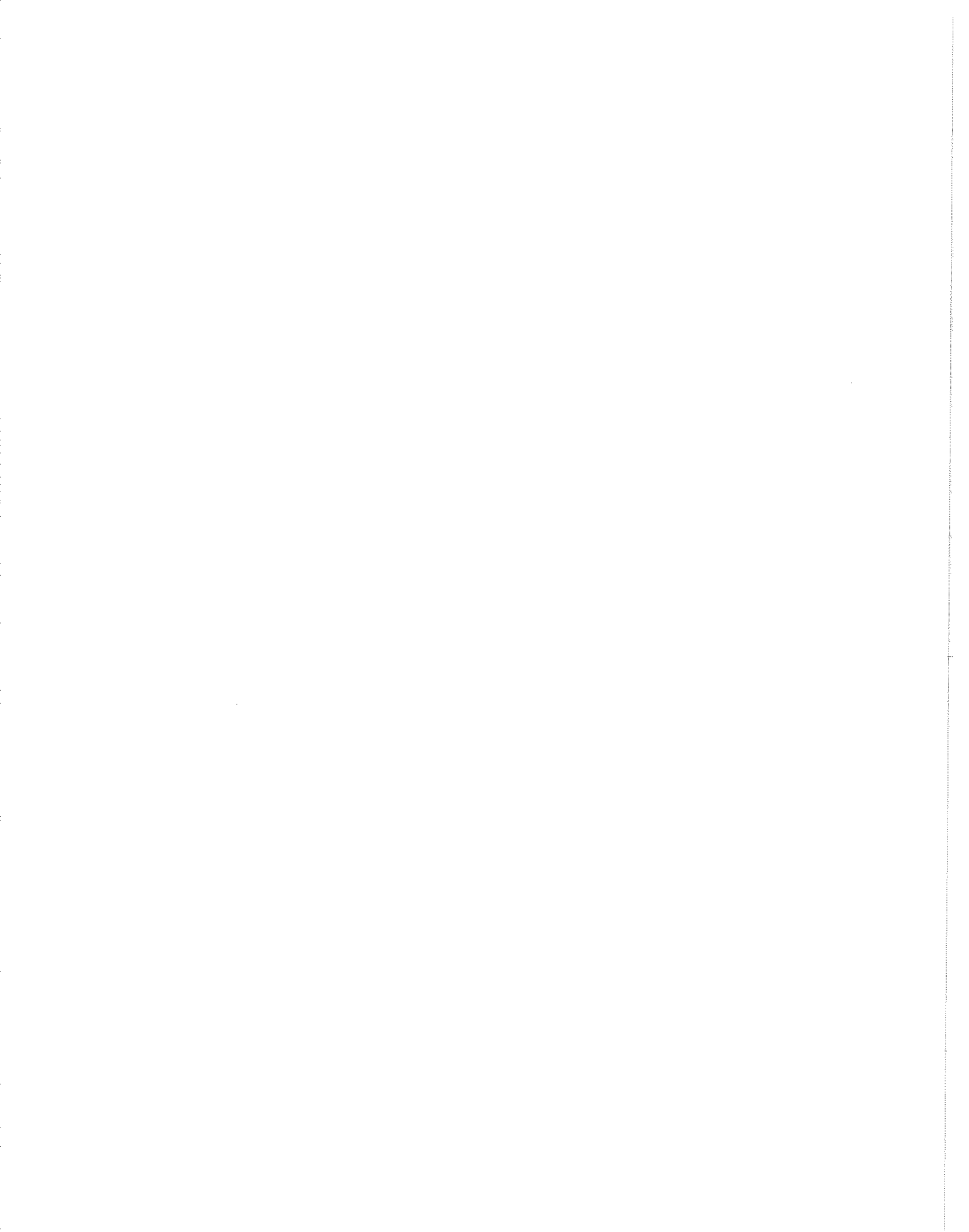
### 4. FIRST AID MEASURES

**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.



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**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**

<b>FLAMMABLE LIMITS:</b>	Upper: Not available Lower: Not available.
<b>GENERAL HAZARD:</b>	No known physical hazard, non-combustible.
<b>EXTINGUISHING MEDIA:</b>	Dry chemical, CO2, water spray or regular foam.
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	None
<b>FIRE FIGHTING PROCEDURES:</b>	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. Do not breathe smoke, gases or vapors generated.
<b>AUTOIGNITION TEMPERATURE:</b>	Not applicable
<b>PROPERTIES CONTRIBUTING TO FLAMMABILITY:</b>	None
<b>FLASH POINT:</b>	Not applicable
<b>SENSITIVITY TO STATIC DISCHARGE:</b>	Not applicable
<b>SENSITIVITY TO IMPACT:</b>	Not applicable

**COMMENTS:**

(See Section 10. Stability and Reactivity)

**6. ACCIDENTAL RELEASE MEASURES**

<b>RELEASE NOTES:</b>	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.
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**7. HANDLING AND STORAGE**

<b>HANDLING:</b>	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.
<b>STORAGE:</b>	Keep away from strong acids. Keep container closed.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE LIMITS**

<u>Chemical Name</u>	<u>TWA</u> <u>(ACGIH)</u>	<u>STEL/Ceiling</u> <u>(ACGIH)</u>	<u>PEL</u> <u>(OSHA)</u>	<u>STEL/Ceiling</u> <u>(OSHA)</u>
None				

**ENGINEERING CONTROLS:**

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

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### PERSONAL PROTECTIVE EQUIPMENT

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Odorless  
APPEARANCE: Clear, colorless liquid  
pH: 7-9  
PERCENT VOLATILE: Not applicable  
VAPOR PRESSURE: Not applicable  
VAPOR DENSITY: Not applicable  
BOILING POINT: 140°C (284°F)  
MELTING POINT: Not applicable  
SOLUBILITY IN WATER: Miscible in any proportion  
EVAPORATION RATE(Butyl Acetate = 1): Not applicable  
SPECIFIC GRAVITY: 1.6 g/cc at 25°C  
MOLECULAR WEIGHT: 88.84  
COEFF. OIL/WATER: Not available  
ODOR THRESHOLD: Not applicable  
FLAMMABLE LIMITS: Upper: Not available Lower: Not available.  
FLASH POINT: Not applicable  
AUTOIGNITION TEMPERATURE: Not applicable  
EXPLOSIVE PROPERTIES: Not explosive  
OXIDIZING PROPERTIES: Not an oxidizer

## 10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Contact with strong acids  
STABILITY: Stable  
POLYMERIZATION: Will not occur  
HAZARDOUS DECOMPOSITION None  
PRODUCTS:  
INCOMPATIBLE MATERIALS: None

## 11. TOXICOLOGICAL INFORMATION

Eye Contact: Severely irritating (rabbit) (52 - 54% LiBr aqueous solution) [FMC Study 196-2080]  
Skin Contact: Severely irritating (rabbit) (52 - 54% LiBr aqueous solution) [FMC Study 196-2082]  
Skin Absorption: Dermal LD<sub>50</sub>: > 2000 mg/kg (rat) (52 - 54% LiBr aqueous solution) [FMC Study 196-2079]  
Ingestion: Oral LD<sub>50</sub>: > 2000 mg/kg (rat) (52 - 54% LiBr aqueous solution) [FMC Study 196-2081]  
Inhalation: Inhalation LC<sub>50</sub>: > 15.57 mg/L/4 hr. (rat) (52 - 54% LiBr aqueous solution) [FMC Study 196-2087]

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**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.

<b><u>Sensitization:</u></b>	Sensitizing (guinea pig) [FMC Study I96-2083] (52 - 54% LiBr aqueous solution)
<b><u>Carcinogenicity:</u></b>	EH40: Not listed. IARC: Not listed. OSHA: Not considered a carcinogen under OSHA. ACGIH: Not listed
<b><u>Mutagenicity:</u></b>	No
<b><u>Reproductive Toxicity:</u></b>	No

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## 12. ECOLOGICAL INFORMATION

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**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.

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## 13. DISPOSAL CONSIDERATIONS

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

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## 14. TRANSPORT INFORMATION

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<b><u>PROPER SHIPPING NAME:</u></b>	None
<b><u>CLASSIFICATION:</u></b>	None
<b><u>LABELS:</u></b>	None
<b><u>UN NUMBER:</u></b>	None
<b><u>PACKING GROUP:</u></b>	None
<b><u>CUSTOM TARIFF NO:</u></b>	2827.59.0000
<b><u>MARINE POLLUTANT:</u></b>	No

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## 15. REGULATORY INFORMATION

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**UNITED STATES**

Immediate (Acute) Health Hazard

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**SECTION 311 HAZARD CATEGORY (40 CFR 370):**  
**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):**  
**CERCLA HAZARDOUS SUBSTANCE (40 CFR**  
**302.4):**

Not listed

**TSCA SEC 12B EXPORT NOTIFICATION:**

Not listed

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

**TSCA INVENTORY STATUS (40 CFR 710):**

Listed

**CANADA**

Product Identification No.: None

**WHMIS:**

Hazard Classification: Class D, Division 2B (Eye and skin irritant, skin sensitizer)

Ingredient Disclosure List: Not listed

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## **16. OTHER INFORMATION**

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**REVISION SUMMARY:** Revision No: 7: 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.  
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