

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Lithium Nitrate  
**CHEMICAL FAMILY:** Lithium Salts  
**MOLECULAR FORMULA:** LiNO<sub>3</sub>  
**ALTERNATE TRADE NAME(S):** ADVAGuard<sup>®</sup> 391 Corrosion Inhibitor, Lectro<sup>®</sup> Lyte 800 salt  
**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 nitrate	7790-69-4	100

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** OXIDIZER. White granular solid.  
**POTENTIAL HEALTH EFFECTS:** Lithium nitrate is irritating to the eyes, skin, nose, and throat. Exposure to dusts may cause a burning sensation, cough, wheezing and inflammation of exposed tissue.

**COMMENTS:**  
(See Section 11, Toxicological Information)

## 4. FIRST AID MEASURES

**EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with a finger or by giving syrup of ipecac. Never induce vomiting or give anything by mouth to an unconscious person. Contact a medical doctor.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

### NOTES TO MEDICAL DOCTOR:

Lithium nitrate is irritating to the eyes, skin, and mucous membranes. Treatment is controlled removal of exposure with symptomatic and supportive care.

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## 5. FIRE FIGHTING MEASURES

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**FLAMMABLE LIMITS:**

Upper: Not available Lower: Not available.

**GENERAL HAZARD:**

Oxidizer. Contact with easily oxidizable or combustible material may cause fire or explosion upon ignition from any source.

**EXTINGUISHING MEDIA:**

Use water only. Do not use dry chemical, CO2 or Halon.

**HAZARDOUS COMBUSTION PRODUCTS:**

Oxygen, nitrogen oxide

**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. Do not breathe smoke, gases or vapors generated.

**AUTOIGNITION TEMPERATURE:**

Not applicable

**PROPERTIES CONTRIBUTING TO**

Oxidizer

**FLAMMABILITY:**

**FLASH POINT:**

Not applicable

**SENSITIVITY TO STATIC DISCHARGE:**

Not applicable

**SENSITIVITY TO IMPACT:**

Not applicable

**COMMENTS:**

(See Section 10, Stability and Reactivity)

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## 6. ACCIDENTAL RELEASE MEASURES

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**RELEASE NOTES:**

Keep combustibles (wood, paper, oil etc.) away from spilled material. With clean shovel, place into clean dry container, and cover loosely. 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

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**HANDLING:**

Do not get in eyes, on skin or clothing. Avoid breathing dust. Wash thoroughly after handling.

**STORAGE:**

Store away from readily oxidizable materials, strong acids and flammable materials. Protect from moisture. Keep container closed.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**EXPOSURE LIMITS**

**Chemical Name**

**TWA  
(ACGIH)**

**STEL/Ceiling  
(ACGIH)**

**PEL  
(OSHA)**

**STEL/Ceiling  
(OSHA)**

PNOC<sup>1</sup>, inhalable particulate

10 mg/m<sup>3</sup>

PNOC<sup>1</sup>, respirable particulate

3 mg/m<sup>3</sup>

<sup>1</sup>PNOC = Particulates Not Otherwise Classified.

**ENGINEERING CONTROLS:**

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

### **PERSONAL PROTECTIVE EQUIPMENT**

<b><u>Eyes And Face:</u></b>	Safety glasses or goggles
<b><u>Respiratory:</u></b>	When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts.
<b><u>Protective Clothing:</u></b>	Rubber gloves
<b><u>Work Hygienic Practices:</u></b>	Quick-drench eyewash and safety shower.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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<b><u>ODOR:</u></b>	Odorless
<b><u>APPEARANCE:</u></b>	White granular solid
<b><u>pH:</u></b>	Not applicable
<b><u>PERCENT VOLATILE:</u></b>	Not applicable
<b><u>VAPOR PRESSURE:</u></b>	Not applicable
<b><u>VAPOR DENSITY:</u></b>	Not applicable
<b><u>BOILING POINT:</u></b>	Decomposes @ 600°C (1112°F)
<b><u>MELTING POINT:</u></b>	251°C (483°F)
<b><u>SOLUBILITY IN WATER:</u></b>	% by wt. @ 20°C (68°F): 43
<b><u>EVAPORATION RATE(Butyl Acetate = 1):</u></b>	Not applicable
<b><u>SPECIFIC GRAVITY:</u></b>	1.2 to 1.3 g/cc at 25°C (77°F)
<b><u>MOLECULAR WEIGHT:</u></b>	68.95
<b><u>COEFF. OIL/WATER:</u></b>	Not available
<b><u>ODOR THRESHOLD:</u></b>	Not applicable
<b><u>FLAMMABLE LIMITS:</u></b>	Upper: Not available Lower: Not available.
<b><u>FLASH POINT:</u></b>	Not applicable
<b><u>AUTOIGNITION TEMPERATURE:</u></b>	Not applicable
<b><u>EXPLOSIVE PROPERTIES:</u></b>	Not explosive
<b><u>OXIDIZING PROPERTIES:</u></b>	Oxidizer

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## **10. STABILITY AND REACTIVITY**

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<b><u>CONDITIONS TO AVOID:</u></b>	The substance is an oxidizer, which releases oxygen on heating. The oxygen will intensify any fire in the immediate surroundings. Toxic oxides of nitrogen may be released in a fire situation.
<b><u>STABILITY:</u></b>	Stable
<b><u>POLYMERIZATION:</u></b>	Does not polymerize
<b><u>HAZARDOUS DECOMPOSITION PRODUCTS:</u></b>	None
<b><u>INCOMPATIBLE MATERIALS:</u></b>	Combustibles, organic and oxidizable materials (such as paper, wood and cotton). Some organics (fuels) form explosive mixtures.

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## **11. TOXICOLOGICAL INFORMATION**

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<b><u>Eye Contact:</u></b>	Moderately irritating (rabbit)	[FMC Study I99-2280]
<b><u>Skin Contact:</u></b>	Mildly irritating (rabbit)	[FMC Study I99-2282]
<b><u>Skin Absorption:</u></b>	LD <sub>50</sub> > 2000 mg/kg (rat)	[FMC Study I99-2277]

**Ingestion:** LD<sub>50</sub> = (rat) 1426 mg/kg (combined); 1317 mg/kg (male); 1519 mg/kg (female) [FMC Study I99-2283]

**Inhalation:** No data available for the product.  
Lithium nitrate solution (30%): > 5.93 mg/L (rat, 4 hr.) (maximum attainable concentration) [FMC Study I99-2313]

**Acute Effects From Overexposure:**

Lithium nitrate is irritating to the eyes, skin, nose, and throat. Exposure to dusts may cause a burning sensation, cough, wheezing and inflammation of exposed tissue.

**Chronic Effects From Overexposure:**

No data available for the product.  
Exposure to lithium in industrial settings is not considered to pose a risk to human health. NIOSH studied 25 workers exposed to lithium-containing dust at air concentrations exceeding 10 mg/m<sup>3</sup> (nuisance dust limit) and found that typical industrial exposure to lithium will not result in blood levels sufficiently high to produce toxicity in either adults or their offspring. [NIOSH, Health Hazard Evaluation report HHE80-036-922]

**Sensitization:** Non-sensitizing (guinea pig) [FMC Study I99-2281]

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

**Mutagenicity:** No

**Reproductive Toxicity:** No

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

No data available for the product.

**Chemical Fate Information:**

No data available for the product.

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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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**UN NUMBER:** UN2722  
**PROPER SHIPPING NAME:** Lithium Nitrate  
**CLASSIFICATION:** 5.1, Oxidizing Agent  
**LABELS:** Oxidizing Agent  
**PACKING GROUP:** III  
**CUSTOM TARIFF NO:** 2834.29.6050  
**MARINE POLLUTANT:** No

**PIH:** Not designated Inhalation Hazard by US DOT.

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## 15. REGULATORY INFORMATION

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### UNITED STATES

**SECTION 311 HAZARD CATEGORY (40 CFR 370):**

Fire hazard, immediate (acute) health hazard.

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

This product contains lithium nitrate which is subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986.

Water dissociable nitrate compounds are a category of compounds subject to this reporting requirement. They are reportable only when in aqueous solution.

This information must be included in all MSDS's that are copied and distributed for this material.

**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.: 2722

Hazard Classification: Class C (Oxidizing material)

Class D, Division 2B (Irritant - eyes and skin)

Ingredient Disclosure List: Not listed

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## 16. OTHER INFORMATION

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**REVISION SUMMARY:** Revision # 7: Sections 14 and 15 revised.

**NFPA RATING**

**HEALTH:** 1

**FLAMMABILITY:** 0

**REACTIVITY:** 1

**SPECIAL:** OXY

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 6a

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