

## SAFETY DATA SHEET

## LITHIUM NITRATE

### 1. Identification of the Substance/Mixture and of the Company/Undertaking:

- 1.1 **Product Identifier:** Lithium Nitrate
- 1.1.1 **Substances**
- 1.1.2 **Alternate names and trade name** ADVAGuard® 391 Corrosion Inhibitor, Lectro® Lyte 800 salt
- 1.1.2 **Mixture name:** Not applicable
- 1.2 **Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:**  
 Formulation and chemical synthesis in industrial manufacturing operations.  
 Additive for preparations and articles for industrial and consumer use.  
 Do not use for private purposes (household).
- 1.3 **Details of the Supplier of the Safety Data Sheet**

**North America**

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 2801 Yorkmont Rd, Suite 300  
 Charlotte, NC 28208  
 Phone: +1.704.868.5300  
 Fax: +1.704.868.5370  
 1.888.lithium

Email: lithium.info@fmc.com  
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**Europe**

FMC Chemicals  
 Commercial Road  
 Bromborough, Merseyside  
 CH62 3NL, England  
 Phone: +44.151.482.7356  
 Fax: +44.151.482.7361

**Asia Pacific**

FMC Lithium Asia Pacific Office  
 15F Far East International Plaza  
 Shanghai 200051, PRC  
 Phone: +86.21.6235 1919  
 Fax: +86.21.6235 1917

1.4 **Emergency Telephone Number:**

**North America**

CHEMTREC: +1.800.424.9300  
 Plant: +1.704.629.5361  
 Medical: +1.303.595.9048

**Europe**

24 hr Specialist advice number  
 (Carechem): +44.1865.407333  
 Office (0900-1700): +44.151.334.8085

**Asia Pacific**

Phone: +86.21.6235.1919  
 Fax: +86.21.6235.1917

### 2. Hazards Identification

- 2.1 **Classification of the Substance or mixture:**  
 2.1.1 **GHS Classification [EC Regulation No 1272/2008 and US OSHA regulations]**  
 Oxidising solid Category 3  
 Acute Toxicity Category 4
- 2.2.2 **EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]**  
 O, R8; Xn, R22

2.2 **Label Elements:**

2.2.3 **Hazard Pictograms(s):**



2.2.4 **Signal Word:**

**Hazard Statement(s):**

Warning  
 May intensify fire; oxidizer.  
 Harmful if swallowed.

H272  
 H302

**Precautionary Statement(s):**

Take any precaution to avoid mixing with combustibles.  
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 In case of fire: Use water for extinction.  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel

P221  
 P210  
 P280  
 P370 + P378  
 P301 + P312

**Air Treatment Construction Energy Fine Chemicals Glass & Ceramics Greases & Lubricants Polymers Pool Water Treatment**

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- unwell.  
2.3 **Other Hazards**  
None.

### 3. Composition / Information on Ingredients

#### 3.1 Substances

##### 3.1.1 GHS Classification [EC: Regulation No 1272/2008; US: OSHA regulations]

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt. %	Classification, Hazard Statement Codes
Lithium nitrate	7790-69-4	232-218-9	not avail.	not available	100	Ox. Sol. 3 Acute Tox. 4 H272 H302

##### 3.1.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]

Chemical Name	CAS #	EC No	Wt. %	Symbols	R-phrases
Lithium nitrate	7790-69-4	232-218-9	100	O Xn	R8 R22

- 3.2 **Mixtures** Not applicable.

(see Section 16 for R-phrases text)

### 4. First Aid Measures

#### 4.1 Description of 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. Never give anything by mouth to an unconscious person. If any discomfort persists, obtain medical attention.
- INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

#### 4.2 Most Important Symptoms and effects, both acute and delayed

Lithium nitrate has low toxicity and may produce moderate irritation.

#### 4.3 Indication of any immediate medical attention and special treatment needed.

**Notes to medical doctor:**

Lithium nitrate has low toxicity and may produce moderate irritation. Treatment is symptomatic and supportive.

### 5. Fire-Fighting Measures

- 5.1 **Extinguishing media** Use water only. Do not use dry chemical, CO<sub>2</sub> or Halon.
- 5.2 **Special hazards arising from the substance or mixture**
- Hazardous combustion products** Oxygen, nitrogen oxide
- General Hazard** Oxidizer. Contact with easily oxidizable or combustible material may cause fire or explosion upon ignition from any source.
- Properties contributing to**
- Flammability** Oxidizer
- Flashpoint** Not applicable
- Flammable limits in air** Not applicable
- Auto ignition temperature** Not available
- Sensitivity to static discharge** Not applicable
- Sensitivity to static impact** Not applicable
- 5.3 **Advice for fire-fighters**
- 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.

#### COMMENTS:

(See Section 10, Stability and Reactivity)

## 6. Accidental Release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
 Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.
- 6.2 Environmental precautions**  
 Do not wash into drains. Dispose of at qualified waste disposal facility.
- 6.3 Methods and material for containment and cleaning up**  
 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.
- 6.4 Reference to other sections**  
 Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.
- 6.5 Additional information**  
 Not specified.

## 7. Handling and Storage

- 7.1 Precautions for safe handling**  
 Do not get in eyes, on skin or clothing. Avoid breathing dust. Wash thoroughly after handling.
- 7.2 Conditions for safe storage, including any incompatibilities**  
 Store away from readily oxidizable materials, strong acids and flammable materials. Protect from moisture. Keep container closed.
- 7.3 Specific end use(s)**  
 Not available. Chemical safety assessment has not been completed for this product.

## 8. Exposure Controls / Personal Protection

### 8.1 Control parameters

#### EXPOSURE LIMITS

<u>Chemical Name</u>	<u>EU</u>		<u>EH40 (UK WEL)</u>		<u>USA (ACGIH)</u>		<u>USA (OSHA)</u>	
	<u>TWA</u>	<u>STEL</u>	<u>TWA</u>	<u>STEL</u>	<u>TWA</u>	<u>STEL/Ceiling</u>	<u>PEL</u>	<u>STEL/Ceiling</u>
Lithium nitrate	none*		none*		none*		none*	

\* No occupational exposure limit value

### 8.2 Exposure controls

#### Engineering controls:

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

#### Personal protective equipment

##### Eyes and Face:

Safety glasses or goggles

##### Respiratory:

Wear a respirator approved for protection against inorganic dusts, when adequate ventilation is not available.

US: NIOSH or MSHA approved

Europe: CEN Class P type

##### Protective Clothing:

**Gloves:** Nitrile/Neoprene/PVC/Natural Rubber (permeation breakthrough not detected during 6 hr test)

These glove recommendations should not be used as the absolute basis for glove selection. Actual in-use conditions may vary glove performance from the controlled conditions of laboratory tests. Factors such as concentration and temperature, glove thickness and glove reuse, may affect performance. Other glove requirements, such as length, dexterity, cut, abrasion, puncture and snag resistance, or glove grip need to be considered in making your final selection.

**Other:** Not specified.

##### Work Hygienic Practices:

Quick-drench eyewash and safety shower.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b><u>Appearance:</u></b>	White granular solid
<b><u>Odor:</u></b>	Odorless
<b><u>Odor threshold:</u></b>	Not applicable
<b><u>pH:</u></b>	Not applicable
<b><u>Melting point:</u></b>	251°C (483°F)
<b><u>Boiling point:</u></b>	Decomposes @ 600°C (1112°F)
<b><u>Flash point:</u></b>	Not applicable
<b><u>Evaporation rate(butyl acetate = 1):</u></b>	Not applicable
<b><u>Flammability:</u></b>	Oxidizer. Contact with combustible materials may cause fire.
<b><u>Flammable limits:</u></b>	Not applicable
<b><u>Vapor pressure:</u></b>	Not applicable
<b><u>Vapor density (air = 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>Solubility in water:</u></b>	% by wt. @ 20°C (68°F): 43
<b><u>Partition coefficient n-octanol/ water:</u></b>	Not applicable
<b><u>Autoignition temperature:</u></b>	Not available
<b><u>Decomposition temperature:</u></b>	Decomposes @ 600°C (1112°F)
<b><u>Viscosity:</u></b>	Not applicable
<b><u>Explosive properties:</u></b>	Not explosive
<b><u>Oxidizing properties:</u></b>	Not an oxidizer
<b>9.2 <u>Other information</u></b>	
<b><u>Self-reactive properties</u></b>	Does not meet classification criteria.
<b><u>Pyrophoric properties</u></b>	Does not meet classification criteria.
<b><u>Self-heating properties</u></b>	Does not meet classification criteria.
<b><u>Water reactive properties</u></b>	Does not meet classification criteria.
<b><u>Corrosive to metals</u></b>	Does not meet classification criteria.
<b><u>Molecular weight:</u></b>	68.95

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## 10. Stability and Reactivity

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<b>10.1 <u>Reactivity</u></b>	Oxidizer. Contact with combustible materials may cause fire.
<b>10.2 <u>Chemical stability</u></b>	Stable
<b>10.3 <u>Possibility of hazardous reaction</u></b>	Hazardous polymerization will not occur.
<b>10.4 <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>10.5 <u>Incompatible materials</u></b>	Combustibles, organic and oxidizable materials (such as paper, wood and cotton). Some organics (fuels) form explosive mixtures.
<b>10.6 <u>Hazardous decomposition products</u></b>	None

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## 11. Toxicological Information

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<b>11.1 <u>Toxicokinetics, metabolism and distribution</u></b>	
<b><u>Non-human toxicological data</u></b>	Not available
<b><u>Method:</u></b>	
<b><u>Dosis:</u></b>	
<b><u>Routes of administration:</u></b>	
<b><u>Results:</u></b>	
<b><u>Absorption:</u></b>	
<b><u>Distribution:</u></b>	
<b><u>Metabolism:</u></b>	
<b><u>Excretion:</u></b>	

<b>11.2 <u>Information on toxicological effects</u></b>
<b>11.2.1 <u>Acute Toxicity:</u></b> Acute Toxicity Category 4

<b><u>Substance/mixture</u></b>	<b><u>Oral:</u></b>	<b><u>Dermal:</u></b>	<b><u>Inhalation:</u></b>
Lithium nitrate	LD <sub>50</sub> : = 1426 mg/kg (rat),	LD <sub>50</sub> : > 2000 mg/kg (rat),	LC <sub>50</sub> , lithium nitrate solution (30%): > 5.93 mg/L (rat, 4 hr.) (maximum attainable concentration)

**11.2.2 Skin Corrosion/Irritation:** No classification

**Substance/mixture**  
Lithium nitrate

**Data**  
Based on the available data, the classification criteria are not met.

**11.2.3 Serious Eye Damage/Irritation:** No classification

**Substance/mixture**  
Lithium nitrate

**Data**  
Based on the available data, the classification criteria are not met.

**11.2.4 Respiratory or Skin Sensitization:** No classification

**Substance/mixture**  
Lithium nitrate

**Data**  
Non-sensitizing (guinea pig)

**11.2.5 Carcinogenicity, Mutagenicity, Reproductive Toxicity:** No classification

<b>Substance/mixture</b>	<b>Germ Cell Mutagenicity</b>	<b>Carcinogenicity</b>	<b>Reproductive Toxicity</b>
Lithium nitrate	Based on available data, the classification criteria are not met.	Based on available data, the classification criteria are not met.	Based on available data, the classification criteria are not met.

**Carcinogenicity Listings**

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

**11.2.6 Specific Target Organ Toxicity (STOT) --Single Exposure:** No classification

**Substance/mixture**  
Lithium nitrate

Based on available data, the classification criteria are not met.

**11.2.7 Specific Target Organ Toxicity (STOT) -- Repeated Exposure:** No classification

**Substance/mixture**  
Lithium nitrate

Based on available data, the classification criteria are not met.

**11.2.8 Aspiration Hazard:** No classification

**Substance/mixture**  
Lithium nitrate

Based on available data, the classification criteria are not met.

**12. Ecological Information**

- 12.1 **Toxicity:** No classification.  
Lithium nitrate Based on the available data, the classification criteria are not met.
- 12.2 **Persistence and degradability**  
No data available for the product.
- 12.3 **Bioaccumulative potential**  
No data available for the product.
- 12.4 **Mobility in soil**  
No data available for the product.
- 12.5 **Results of PBT and vPvB assessment**  
No data available for the product.
- 12.6 **Other adverse effects**  
None

**13. Disposal Considerations**

- 13.1 **Waste treatment methods**  
Use a qualified industrial waste disposal facility. Dispose of waste according to local and Federal laws and regulations.

**14. Transport Information**

- 14.1 **UN Number** UN2722
- 14.2 **UN proper shipping name (IMDG, ICAO, ADR, DOT)** Lithium Nitrate
- 14.3 **Transport hazard class(es) (IMDG, ICAO, ADR, DOT)** 5.1, Oxidizing Agent
- 14.4 **Packing group (IMDG, ICAO, ADR, DOT)** III
- 14.5 **Environmental hazards** Based on available data, the classification criteria

- 14.6 Special precautions for user are not met.  
None  
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
None

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## 15. Regulatory Information

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

#### EUROPEAN UNION:

##### German Wassergefährdungsklasse (water hazard class)

Lithium nitrate 1

#### 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 SDS'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.

##### NFPA Rating:

**Health: 1 Flammability: 0 Reactivity: 1 Special: OXY**

#### CANADA:

##### WHMIS:

Product Identification No.: 2722

Hazard Classification: Hazard Classification: Class C (Oxidizing material)

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

Ingredient Disclosure List: Not listed

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

#### INTERNATIONAL INVENTORY STATUS:

<u>Inventory/Country</u>	<u>Product Status</u>
EINECS (EU)	Listed
TSCA (US)	Listed
ECL (Korea)	Listed
DSL (Canada)	Listed

### 15.2 Chemical Safety Assessment

The Chemical Safety Assessment has not been completed for this mixture.

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## 16. Other Information

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#### European Union:

##### R Phrases:

Oxidizer. R8  
Harmful if swallowed. R22

**REVISION SUMMARY:** Revision # 0. All sections revised. New format. Regular review completed.

This SDS has been prepared to meet European Regulation (EC) No 1907/2006 [and No 1272/2008], U. S. OSHA Hazard Communication Standard, and Canada's Workplace Hazardous Materials Information System (WHMIS)

requirements.

type 6a

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