



SAFETY DATA SHEET

LITHIUM NITRATE SOLUTION

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

- 1.1 **Product Identifier:** Lithium nitrate solution
- 1.1.1 **Substances** Not applicable
- 1.1.2 **Mixture name:** Lithium nitrate solution
- Alternate names and trade name:** Lifetime[®] N Admixture, Renew[®] Concrete Treatment

- 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**

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Jinke Road
Shanghai, China 201203
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Email: lithium.info@fmc.com
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1.4 **Emergency Telephone Number:**

North America
CHEMTREC: +1.800.424.9300
+1.703.527.3887
Plant: +1.704.629.5361
Medical: +1.303.595.9048

Europe
24 hr Specialist advice number:
CHEMTREC: +1.703.527.3887

Asia Pacific
Phone: +86.21.2067.5888

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]**
Acute Toxicity Category 4
 - 2.2.2 **EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]**
Xn, R22

- 2.2 **Label Elements:**
 - 2.2.3 **Hazard Pictograms(s):**



- 2.2.4 **Signal Word:** Warning
- Hazard Statement(s):** Harmful if swallowed. H302
- Precautionary Statement(s):**
 - Wash hands thoroughly after handling. P264
 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P301 + P312
 - Rinse mouth. P330
 - Do not eat, drink or smoke when using this product. P270
 - Dispose of contents/ container to an approved waste disposal plant. P501

- 2.3 **Other Hazards**
None.

3. Composition / Information on Ingredients

3.1 **Substances** Not applicable.

3.2 **Mixtures**

3.2.1 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	30 - 40	Acute tox 4 H 302
Water	7732-18-5	None	None	None	60 - 70	None

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

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt. %	Classification, Hazard Phrases
Lithium nitrate	7790-69-4	232-218-9	None	None	30 - 40	R 22
Water	7732-18-5	None	None	None	60 - 70	None

(see Section 16 for abbreviations and 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, contact a medical doctor.

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

Skin and eye irritation.

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

Notes to medical doctor:

This product has low oral, dermal and inhalation toxicity, and may produce mild irritation. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. Fire-Fighting Measures

5.1 **Extinguishing media** Use water only. Do not use dry chemical, CO₂ or Halon.

5.2 **Special hazards arising from the substance or mixture**

Hazardous combustion products

General Hazard

Oxygen, nitrogen oxide
 Oxidizer. If water solvent evaporates, the remaining solid is an oxidizing material. Contact of this solid with easily oxidizable or combustible materials may cause fire or explosion upon ignition from any source.

Properties contributing to

Flammability

Flashpoint

Flammable limits in air

Auto ignition temperature

Sensitivity to static discharge

Sensitivity to static impact

Oxidizer
 Not applicable
 Not applicable
 Not available
 Not applicable
 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.

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**
Contain spill. 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. Contain spill with absorbant. Transfer to suitable container and clean spillage with an absorbant.
- 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**
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.
- 7.2 Conditions for safe storage, including any incompatibilities**
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
- 7.3 Specific end use(s)**
Defined in Exposure scenarios. Industrial and professional use only

8. Exposure Controls / Personal Protection

8.1 Control parameters

Lithium nitrate

DNEL

Long-term exposure, systemic, inhalation Not available
Long-term exposure, systemic, dermal Not available

PNEC

PNEC aqua (freshwater) Not available
PNEC STP Not available

EXPOSURE LIMITS

Chemical Name	EU		EH40 (UK WEL)		USA (ACGIH)		USA (OSHA)	
	TWA	STEL	TWA	STEL	TWA	STEL/Ceiling	PEL	STEL/Ceiling
Lithium nitrate	none		none		None		None	

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:

When engineering controls are not adequate, wear a respirator approved for protection against inorganic dusts.

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

Quick-drench eyewash and safety shower.

Practices:

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<u>Appearance:</u>	Clear, water white to yellow solution
<u>Odor:</u>	Odorless
<u>Odor threshold:</u>	Not applicable
<u>pH:</u>	(5% solution) @ 25°C: 7-9.5
<u>Melting point:</u>	Not applicable
<u>Boiling point:</u>	110°C (230°F) to 120°C (248°F)
<u>Flash point:</u>	Not applicable
<u>Evaporation rate(butyl acetate = 1):</u>	Not applicable
<u>Flammability:</u>	Not flammable
<u>Flammable limits:</u>	Not applicable
<u>Vapor pressure:</u>	Not applicable
<u>Vapor density (air = 1):</u>	Not applicable
<u>Specific gravity:</u>	1.2 to 1.3 g/cc at 25°C (77°F)
<u>Solubility in water:</u>	Miscible in any proportion
<u>Partition coefficient n-octanol/ water:</u>	Not applicable. No components considered to be soluble in octanol
<u>Autoignition temperature:</u>	Not applicable
<u>Decomposition temperature:</u>	Not available
<u>Viscosity:</u>	Not available
<u>Explosive properties:</u>	Not explosive
<u>Oxidizing properties:</u>	Not an oxidizer

9.2 Other information

<u>Self-reactive properties</u>	Does not meet classification criteria.
<u>Pyrophoric properties</u>	Does not meet classification criteria
<u>Self-heating properties</u>	Does not meet classification criteria.
<u>Water reactive properties</u>	Does not meet classification criteria.
<u>Corrosive to metals</u>	Does not meet classification criteria.
<u>Molecular weight:</u>	68.95 (Lithium nitrate)

10. Stability and Reactivity

10.1 <u>Reactivity</u>	If water is allowed to evaporate, remaining solid is an oxidizer. Contact with combustible materials may cause fire.
10.2 <u>Chemical stability</u>	Stable.
10.3 <u>Possibility of hazardous reaction</u>	Hazardous polymerization will not occur.
10.4 <u>Conditions to avoid</u>	If the solution is heated or otherwise allowed to evaporate, the remaining solid is an oxidizer, which releases oxygen on heating. This oxygen will intensify any fire in the immediate situation.
10.5 <u>Incompatible materials</u>	Combustibles, organic and oxidizable materials (such as paper, wood and cotton). Some organics (fuels) form explosive mixtures
10.6 <u>Hazardous decomposition products</u>	None

11. Toxicological Information

11.1 Information on toxicological effects

(a) acute toxicity	Lithium nitrate acute oral toxicity: LD ₅₀ = 1426 mg/kg (rat), Lithium nitrate acute dermal toxicity: LD ₅₀ > 2000 mg/kg (rat) Lithium nitrate acute inhalation toxicity: LC ₅₀ , lithium nitrate solution (30%): > 5.93 mg/L (rat, 4 hr.) (maximum attainable concentration)
(b) skin corrosion/irritation	Classified as not irritating to skin on the basis of lithium nitrate.
(c) serious eye damage/irritation	Classified as not irritating to eyes on the basis of lithium nitrate.
(d) respiratory/skin sensitisation	Classified as not sensitizing to skin on the basis of lithium nitrate.
(e) germ cell mutagenicity	Classified as not mutagenic based on lithium nitrate.
(f) carcinogenicity	Classified as not carcinogenic based on lithium nitrate.
(g) reproductive toxicity	Classified as not a reproductive toxin based on lithium nitrate.
(h) STOT-single exposure	Classified as not causing organ damage based on lithium nitrate.
(i) STOT-repeated exposure	Classified as not causing organ damage on repeat exposure based on lithium nitrate.

(j) aspiration hazard Lithium nitrate solution, and aqueous solution, does not present an aspiration hazard.

Acute Effects From Overexposure:

No data available for the formulation.
No envisaged effects other than acute effects from local irritation

Chronic Effects From Overexposure:

No data available for product.

Carcinogenicity Listings

Eh40: Not listed.
IARC: Not listed.
NTP: Not listed.
OSHA: Not considered a carcinogen under OSHA.
ACGIH: Not listed.

12. Ecological Information

- 12.1 **Toxicity:** No classification
No data available for product.
- 12.2 **Persistence and degradability**
Inorganic salt.
- 12.3 **Bioaccumulative potential**
Inorganic. Lithium salts are not bioaccumulative
- 12.4 **Mobility in soil**
Not expected to be mobile..
- 12.5 **Results of PBT and vPvB assessment**
Inorganic
- 12.6 **Other adverse effects**
None

13. Disposal Considerations

- 13.1 **Waste treatment methods**
Disposal method:
Do not discharge to waste water systems.
Dispose of waste according to local and national laws and regulations.

14. Transport Information

- 14.1 **UN Number** Not classified
- 14.2 **UN proper shipping name (IMDG, ICAO, ADR, DOT)** None
- 14.3 **Transport hazard class(es) (IMDG, ICAO, ADR, DOT)** None
- 14.4 **Packing group (IMDG, ICAO, ADR, DOT)** None
- 14.5 **Environmental hazards** None
- 14.6 **Special precautions for user** None
- 14.7 **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** None

15. Regulatory Information

- 15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

EUROPEAN UNION:

German Wassergefährdungsklasse (water hazard class)
Lithium nitrate

UNITED STATES:

Section 311 Hazard Category (40 CFR 370):
Section 313 Reportable Ingredients (40 CFR 372):

Immediate (acute) health hazard,
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):
CERCLA Hazardous Substance (40 CFR 302.4):

Not listed

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: 0 Special: OXY
0

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

A Chemical Safety Assessment has not been completed for this material

16. Other Information

European Union:

R Phrases:

Oxidizer. R8
Harmful if swallowed. R22

List of Abbreviations used in this SDS:

PBT Persistent, Bioaccumulative and Toxic
vPvB very Persistent, very Bioaccumulative
PEC Predicted environmental concentration
PNEC Predicted no effect concentration
DNEL Derived no effect level

Specific uses identified for Exposure Scenarios

Not available.

REVISION SUMMARY: Revision # 0. New SDS.

This SDS has been prepared to meet European Regulation (EC) No 1907/2006 [and No 1272/2008], and U. S. OSHA Hazard Communication Standard requirements.

type 6b

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