

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

- 1.1 Product Identifier:** Lithium chloride
- 1.1.1 Substances** Lithium chloride
- Alternate names and trade name** Lithium Chloride Anhydrous
- 1.1.2 Mixture name:** Not applicable
- 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:**  
 Component in closed systems for air conditioning applications.  
 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**
- |   |   |  |
|---|---|--|
| <p><b>North America</b><br/>         FMC Lithium USA Corp.<br/>         2801 Yorkmont Road, Suite 300<br/>         Charlotte, NC 28208<br/>         Phone: +1.704.426.5300<br/>         Fax: +1.704.426.5370<br/>         1.888.lithium</p> | <p><b>Europe</b><br/>         FMC Chemicals Limited<br/>         Commercial Road<br/>         Bromborough, Merseyside<br/>         CH62 3NL, England<br/>         Phone: +44.151. 334.8085<br/>         Fax: +44.151.482.7361</p> | <p><b>Asia Pacific</b><br/>         FMC Specialty Chemicals (Zhangjiagang)<br/>         Co. Ltd.<br/>         32 Beijing Road,<br/>         Yangtse River Chemical Park,<br/>         Zhangjiagang Free Trade Zone, Jianguo<br/>         215635, China<br/>         T: +86.512.5832.7307<br/>         Fax: +86.512.5832.7311</p> |
|---|---|--|

email: [lithium.info@fmc.com](mailto:lithium.info@fmc.com)  
 Web: [www.livent.com](http://www.livent.com)

**1.4 Emergency Telephone Number:**

- |   |  |  |
|---|--|--|
| <p><b>North America</b><br/> <b>CHEMTREC:</b> +1.800.424.9300<br/>         +1.703.527.3887<br/> <b>Plant:</b> +1.704.629.5361</p> | <p><b>Europe</b><br/> <b>24 hr Specialist advice number:</b><br/> <b>CHEMTREC:</b> +44 870 8200418</p> | <p><b>Asia Pacific</b><br/>         Phone: +86.512.5832.7307</p> |
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## 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  
 Eye Irritant, Category 2  
 Skin irritant, Category 2
- 2.2.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]**  
 Xn, R22; Xi, R36, R38
- 2.2 Label Elements:**
- 2.2.3 Hazard Pictograms(s):** 
- 2.2.4 Signal Word:** Warning
- |  |   |   |
|--|---|---|
| <p><b>Hazard Statement(s):</b></p>                 | <p>Harmful if swallowed<br/>         Causes serious eye irritation<br/>         Causes skin irritation</p>  | <p>H302<br/>         H319<br/>         H315</p>   |
| <p><b>Precautionary Statement(s):</b></p>          | <p>Wear protective gloves/protective clothing/eye protection/face protection.<br/>         IF IN EYES: Rinse cautiously w/ water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br/>         If eye irritation persists: Get medical advice/attention.<br/>         IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.<br/>         IF ON SKIN: Wash with plenty of soap and water.<br/>         If skin irritation occurs: Get medical advice/attention.</p> | <p>P280<br/>         P305 + P351 + P338<br/>         P337 + P313<br/>         P301 + P312<br/>         P302 + P352<br/>         P332 + P313</p> |
| <p><b>Additional Precautionary Statements:</b></p> | <p>Wash hands thoroughly after handling.</p>  | <p>P264</p>   |

Do not eat, drink or smoke when using this product. P270  
 Take off contaminated clothing and wash before reuse. P362  
 Dispose of contents/ container to an approved waste disposal plant P501

**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 chloride	7447-41-8	231-212-3	not avail.	01-2119560574-35-0000	100	Acute Tox. 4 Eye Irrit. 2 Skin Irrit. 2	H302 H319 H315

**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 chloride	7447-41-8	231-212-3	100	Xn Xi	R22 R36, 38

**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, 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 is a mild irritant. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

**5. Fire-Fighting Measures**

**5.1 Extinguishing media** Dry chemical, CO<sub>2</sub>, water spray or regular foam.

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

**Hazardous combustion products** None  
**General Hazard** No known physical hazard, non-combustible.  
**Properties contributing to**  
**Flammability** None  
**Flashpoint** Not applicable  
**Flammable limits in air** Upper: Not available Lower: Not available.  
**Auto ignition temperature** Not applicable  
**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**  
 Sweep up and place in suitable container. 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**  
 Avoid contact with eyes, skin or clothing. 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.
- 7.3 Specific end use(s)**  
 Defined in Exposure scenarios. Industrial and professional use only

## 8. Exposure Controls / Personal Protection

### 8.1 Control parameters

#### DNEL

Long-term exposure, systemic, inhalation 10 mg/m<sup>3</sup>  
 Long-term exposure, systemic, dermal 73.2 mg/kg/day

#### PNEC

PNEC aqua (freshwater) 10.4 mg/l  
 PNEC STP 140 mg/l

### 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 chloride	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:

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 Practices:**

Quick-drench eyewash and safety shower.

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## 9. Physical and Chemical Properties

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### 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>	None
<b><u>pH:</u></b>	(1% solution) @ 25°C: 6
<b><u>Melting point:</u></b>	608°C (1126°F)
<b><u>Boiling point:</u></b>	1355°C (2471°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>	Not applicable
<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>	2.1 g/ml
<b><u>Solubility in water:</u></b>	% by wt. @ 25°C (77°F): 45.4
<b><u>Partition coefficient n-octanol/ water:</u></b>	Not available
<b><u>Autoignition temperature:</u></b>	Not applicable
<b><u>Decomposition temperature:</u></b>	Not available
<b><u>Viscosity:</u></b>	Not applicable
<b><u>Explosive properties:</u></b>	Not explosive
<b><u>Oxidizing properties:</u></b>	Not an oxidizer

### 9.2 Other information

<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>	42.4

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## 10. Stability and Reactivity

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10.1 <b><u>Reactivity</u></b>	Reacts with acids to form hydrogen chloride
10.2 <b><u>Chemical stability</u></b>	Stable
10.3 <b><u>Possibility of hazardous reaction</u></b>	Hazardous polymerization will not occur.
10.4 <b><u>Conditions to avoid</u></b>	Contact with acids
10.5 <b><u>Incompatible materials</u></b>	Acids
10.6 <b><u>Hazardous decomposition products</u></b>	None

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## 11. Toxicological Information

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### 11.1 Information on toxicological effects

(a) acute toxicity	Lithium chloride acute oral toxicity > 526 mg/kg (rat) Lithium chloride acute inhalation toxicity LC <sub>50</sub> : > 5.57 mg/L (male/female)
(b) skin corrosion/irritation	Lithium chloride acute dermal toxicity LD50: >2000 mg/kg (rat), Classified as not irritating to skin on the basis of lithium chloride.
(c) serious eye damage/irritation	Classified as irritant to eyes on the basis of lithium chloride.
(d) respiratory/skin sensitisation	Classed as not sensitizing to skin on the basis of lithium chloride.
(e) germ cell mutagenicity	Classified as not mutagenic based on lithium chloride.
(f) carcinogenicity	Classified as not carcinogenic based on lithium chloride.
(g) reproductive toxicity	Classified as not a reproductive toxin based on lithium chloride.
(h) STOT-single exposure	Classified as not causing organ damage based on lithium chloride.



**EUROPEAN UNION:**

**German Wassergefährdungsklasse (water hazard class)**

Lithium chloride

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**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.

**NFPA Rating:**

**Health: 1 Flammability: 0 Reactivity: 0 Special: None**

**INTERNATIONAL INVENTORY STATUS:**

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

**15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has been completed for this material

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## **16. Other Information**

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**European Union:**

**R Phrases:**

Harmful if swallowed	R22
Irritating to eyes	R36
Irritating to skin	R38

**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**

ES1	Industrial, chemical synthesis and processing
ES2	Formulation, industrial
ES3	Industrial, use of products
ES4	Professional, use of products
ES5	Consumer, use of products

**REVISION SUMMARY:** Revision # 2. Sections 1 and 16 modified. Legal entity and addresses changed.

This SDS has been prepared to meet U. S. OSHA Hazard Communication Standard requirements.  
type 1b

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