



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** LITHIUM CHLORIDE, 99.998%  
**Catalog #** 5036  
**Version #** 02  
**Revision date** 09-Sep-2009  
**CAS #** 7447-41-8  
**Manufacturer information** GFS Chemicals, Inc.  
P.O. Box 245  
Powell, OH 43065 US  
www.gfschemicals.com  
Fax 740-881-5989  
Phone 740-881-5501  
Toll Free 800-858-9682  
Emergency Assistance Chemtrec 800-424-8300

## 2. Hazards Identification

**Emergency overview** CAUTION  
May irritate eyes and skin. May cause irritation to the respiratory system.

**OSHA regulatory status** This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

**Potential health effects**

**Routes of exposure** Eye contact. Inhalation. Ingestion.

**Eyes** This product may cause slight irritation to the eyes.

**Skin** Substance may cause slight skin irritation.

**Inhalation** May be harmful by inhalation. Dust may irritate respiratory system or lungs.

**Ingestion** May be harmful if swallowed. Do not ingest.

**Potential environmental effects** May cause long-term adverse effects in the environment.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
LITHIUM CHLORIDE	7447-41-8	90 - 100

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Rinse with water. Get medical attention if irritation develops or persists.

**Skin contact** Rinse skin with water/shower. Get medical attention if irritation develops or persists.

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

**Ingestion** Have victim rinse mouth thoroughly with water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If material is ingested, immediately contact a poison control center.

**General advice** If you feel unwell, seek medical advice (show the label where possible).

## 5. Fire Fighting Measures

**Flammable properties** The product is not flammable. Not a fire hazard.

## Extinguishing media

**Suitable extinguishing media** Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>). Use extinguishing agent suitable for type of surrounding fire.

## Protection of firefighters

**Protective equipment and precautions for firefighters** In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

**Specific methods** In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental Release Measures

**Personal precautions** Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for cleaning up** Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Following product recovery, flush area with water.

## 7. Handling and Storage

**Handling** Use only with adequate ventilation. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.

**Storage** Keep container tightly closed and dry. Use care in handling/storage.

## 8. Exposure Controls / Personal Protection

**Engineering controls** Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment. No personal respiratory protective equipment normally required.

**Hand protection** Not normally needed.

**Eye / face protection** Wear chemical goggles.

**Skin protection** No special protective equipment required.

**General hygiene considerations** Wash hands after handling and before eating. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical & Chemical Properties

**Appearance** Crystalline.  
**Color** White.  
**Odor** Odorless.  
**Odor threshold** Not available.  
**Physical state** Solid.  
**Form** Solid.  
**pH** 6 (1% aqueous solution)  
**Melting point** 1130 °F (610 °C)  
**Freezing point** Not available.  
**Boiling point** 2480 °F (1360 °C)  
**Flash point** Not available.  
**Evaporation rate** Not available.  
**Flammability** Not available.  
**Flammability limits in air, upper, % by volume** Not available.  
**Flammability limits in air, lower, % by volume** Not available.  
**Vapor pressure** Not available.  
**Vapor density** Not available.  
**Specific gravity** 2.07

<b>Relative density</b>	2.0698 g/cm <sup>3</sup> estimated
<b>Solubility (water)</b>	545 g/l approximately @ 25 C
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Molecular weight</b>	42.3900 g/mol
<b>Molecular formula</b>	LiCl

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

## 11. Toxicological Information

### Acute effects

#### Acute Oral: LD 50

LITHIUM CHLORIDE	7447-41-8	Rat 757 mg/kg
LITHIUM CHLORIDE	7447-41-8	Mouse 1165 mg/kg
LITHIUM CHLORIDE	7447-41-8	Rabbit 850 mg/kg

#### Acute Toxicity other routes: LD 50

LITHIUM CHLORIDE	7447-41-8	Mouse 600 mg/kg Intraperitoneal
LITHIUM CHLORIDE	7447-41-8	Rat 4.8 mg/kg Intracerebral
LITHIUM CHLORIDE	7447-41-8	Rat 441 mg/kg Subcutaneous
LITHIUM CHLORIDE	7447-41-8	Mouse 970 mg/kg Subcutaneous
LITHIUM CHLORIDE	7447-41-8	Rat 513 mg/kg Intraperitoneal
LITHIUM CHLORIDE	7447-41-8	Mouse 828 mg/kg Subcutaneous
LITHIUM CHLORIDE	7447-41-8	Mouse 363 mg/kg Intravenous
LITHIUM CHLORIDE	7447-41-8	Cat 492 mg/kg Intraperitoneal

### Toxicology data for the preparation

Acute LD50: 757 mg/kg, Rat, Oral

<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
------------------------	---

## 12. Ecological Information

<b>Ecotoxicity</b>	Components of this product have been identified as having potential environmental concerns.
--------------------	---

#### Invertebrate Toxicity: EC 50

LITHIUM CHLORIDE	7447-41-8	Water flea (Daphnia magna) 1.2 mg/l 64 h Static Intoxication
------------------	-----------	--

<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
------------------------------	---

<b>Persistence and degradability</b>	Not available.
--------------------------------------	----------------

## 13. Disposal Considerations

<b>Disposal instructions</b>	Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.
------------------------------	--

<b>Waste from residues / unused products</b>	Not applicable.
--	-----------------

## 14. Transport Information

### DOT

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.  
  
CERCLA/SARA Hazardous Substances - Not applicable.

### CERCLA (Superfund) reportable quantity

None

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

## 16. Other Information

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings** Health: 1  
Flammability: 0  
Physical hazard: 0

**NFPA ratings** Health: 1  
Flammability: 0  
Instability: 0

**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Issue date** 09-Sep-2009

**This data sheet contains changes from the previous version in section(s):** This document has undergone significant changes and should be reviewed in its entirety.