SECTION 1: Identification

1.1. Identification

Product name : LITHIUM TRIFLUOROMETHANESULFONATE
Product code : CXLI083
Product form : Substance
Physical state : Solid
Formula : CF3LiO3S
Synonyms : TRIFLUOROMETHANESULFONIC ACID, LITHIUM SALT
Chemical family : METAL COMPOUND

1.2. Recommended use and restrictions on use

Recommended use : Chemical intermediate

1.3. Supplier

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 : (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Skin corrosion/irritation Category 2 H315 Causes skin irritation
Serious eye damage/eye irritation Category 2A H319 Causes serious eye irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P302+P352 - If on skin: Wash with plenty of soap and water
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : LITHIUM TRIFLUOROMETHANESULFONATE
CAS-No. : 33454-82-9
LITHIUM TRIFLUOROMETHANESULFONATE
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium trifluoromethanesulphonate</td>
<td>(CAS-No.) 33454-62-9</td>
<td>96 - 100</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact: Wash with plenty of soap and water. Get medical advice/attention.
First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes skin irritation.
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Unsuitable extinguishing media: None known.

5.2. Specific hazards arising from the chemical
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters
Firefighting instructions: Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Protective equipment: Wear protective equipment as described in Section 8.
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Avoid dust formation.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
- Storage conditions: Keep container tightly closed.
- Storage area: Direct sunlight. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

8.2. Appropriate engineering controls
- Appropriate engineering controls: Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment
- Personal protective equipment: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
  - **Hand protection:** Neoprene or nitrile rubber gloves
  - **Eye protection:** Chemical goggles. Contact lenses should not be worn
  - **Skin and body protection:** Wear suitable protective clothing
  - **Respiratory protection:** Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
- **Physical state:** Solid
- **Appearance:** Solid.
- **Molecular mass:** 156.01 g/mol
- **Color:** White.
- **Odor:** No data available
- **Odor threshold:** No data available
- **Refractive index:** No data available
- **pH:** No data available
- **Relative evaporation rate (butyl acetate=1):** No data available
- **Melting point:** No data available
- **Freezing point:** No data available
- **Boiling point:** No data available
- **Flash point:** No data available
- **Auto-ignition temperature:** No data available
- **Decomposition temperature:** No data available
- **Flammability (solid, gas):** No data available
- **Vapor pressure:** No data available
- **Relative vapor density at 20 °C:** No data available
- **Relative density:** 1.9
- **Solubility:** Soluble in water.
- **Log Pow:** No data available
- **Log Kow:** No data available
- **Viscosity, kinematic:** No data available
- **Viscosity, dynamic:** No data available
- **Explosive properties:** No data available
**LITHIUM TRIFLUOROMETHANESULFONATE**
Safety Data Sheet

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.2. <strong>Other information</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>10. <strong>Stability and reactivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1. <strong>Reactivity</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>10.2. <strong>Chemical stability</strong></td>
<td>Stable at room temperature.</td>
<td></td>
</tr>
<tr>
<td>10.3. <strong>Possibility of hazardous reactions</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>10.4. <strong>Conditions to avoid</strong></td>
<td>Direct sunlight.</td>
<td></td>
</tr>
<tr>
<td>11. <strong>Toxicological information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.1. <strong>Information on toxicological effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause irritation to the respiratory tract.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Causes skin irritation.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye irritation.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>May be harmful if swallowed.</td>
<td></td>
</tr>
<tr>
<td>Reason for classification</td>
<td>Expert judgment</td>
<td></td>
</tr>
<tr>
<td>12. <strong>Ecological information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. <strong>Toxicity</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>12.2. <strong>Persistence and degradability</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>12.3. <strong>Bioaccumulative potential</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>12.4. <strong>Mobility in soil</strong></td>
<td>No additional information available</td>
<td></td>
</tr>
<tr>
<td>12.5. <strong>Other adverse effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>This substance may be hazardous to the environment.</td>
<td></td>
</tr>
<tr>
<td>Effect on the ozone layer</td>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>
### SECTION 13: Disposal considerations

<table>
<thead>
<tr>
<th>13.1. Disposal methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage disposal recommendations</td>
</tr>
<tr>
<td>Product/Packaging disposal recommendations</td>
</tr>
<tr>
<td>Ecology - waste materials</td>
</tr>
</tbody>
</table>

### SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1. UN number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not regulated for transport.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.2. UN proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3. Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information</td>
</tr>
</tbody>
</table>

**Transport by sea**
No additional information available

**Air transport**
No additional information available

### SECTION 15: Regulatory information

**15.1. US Federal regulations**

Lithium trifluoromethanesulphonate (33454-82-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

**15.2. International regulations**

**CANADA**

Lithium trifluoromethanesulphonate (33454-82-9)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

**EU-Regulations**

Lithium trifluoromethanesulphonate (33454-82-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**National regulations**

Lithium trifluoromethanesulphonate (33454-82-9)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)

**15.3. US State regulations**

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

### SECTION 16: Other information

**Full text of H-phrases::**

<table>
<thead>
<tr>
<th>H315</th>
<th>Causes skin irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

**Abbreviations and acronyms**

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.
Hazard Rating

Health: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class III B)

Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 01/05/2015    Revision date: 09/11/2015    Version: 1.1

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2019 Gelest Inc. Morrisville, PA 19067