



Lithium Trifluoromethanesulfonate

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Version 8.0
Revision Date 2023/01/01
SDS No. Aure-21135

SECTION 1: Identification

1.1 Product identifiers

Product Name Lithium Trifluoromethanesulfonate

Synonyms Lithium Triflate

Linear Formula $\text{CF}_3\text{SO}_3\text{Li}$

CAS No 33454-82-9

EC No 251-528-5

Molecular Weight 156.01 g/mol

1.2 Recommended use

Used as lithium battery and organic electrolyte lithium salt.

1.3 Supplier's details

Company Name Shandong Aure Chemical Co., Ltd.

Address No. 61 Gongshan Road, Qilu Chemical Industrial Zone, Zibo, Shandong, China

Telephone +86 18653390106

Email Services@aurechem.com

1.4 Emergency telephone number

Emergency Phone

+86 13263299644

SECTION 2: Hazards Identification

2.1 GHS Classification

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]:

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Specific target organ toxicity– single exposure (Category 3),H335

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

Irritating to eyes, respiratory system and skin.

2.2 GHS Label elements

Hazard pictograms:



Signal Word

Warning

Hazard Statement(s) (H-phrases):

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Route of entry: Ingestion, inhalation, eye or skin contact.

Health hazards

Eye contact Corneal clouding, severe pain, tears, may result in eye chemical burns, partial or total loss of vision.

Skin contact May cause skin damage, including redness and severe pain.

Ingestion May cause the lithium poisoning, repeated exposure may lead to diarrhea, vomiting and neuromuscular effects, such as tremor, cramps, hyperreflexia, and other symptoms.

Inhalation May result in respiratory irritation, nasal and throat pain, cough, runny nose, headache.

Most important symptoms and effects, both acute and delayed

Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

Additional Information

RTECS: Not available

SECTION 3: Composition/Information on Ingredients

Composition	Single Substance
Chemical Name	Lithium trifluoromethanesulfonate
Chemical formula	CF ₃ SO ₃ Li
Purity	> 99.5%
CASNo	33454-82-9
ECNo	251-528-5

SECTION 4: First-Aid Measures

4.1 Description of first-aid measures

General	Show this SDS to the doctor in attendance.
If inhaled	Move person to fresh air. If breathing is difficult, give oxygen and seek medical attention.
In case of skin contact	Remove contaminated clothing and wash skin with soap and water for at least 15 minutes. Seek medical advice if irritation persists.
In case of eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek immediate medical attention.
If swallowed	Rinse mouth. Do NOT induce vomiting. Get medical attention. Show this SDS to the treating physician.

4.2 Indication of immediate medical attention:

In suspected systemic lithium poisoning, hospital treatment is required. Medical staff should monitor lithium levels and provide supportive care, including hemodialysis where appropriate.

SECTION 5: Fire-Fighting Measures

5.1 Extinguishing media

Use water spray, foam, dry chemical, or carbon dioxide.

5.1 Special Hazards

Product is not flammable. Decomposition under fire conditions may produce carbon oxides, sulfur oxides, hydrogen fluoride, and lithium oxides.

5.3 Hazardous combustion products

Carbon oxides, sulfur oxides, hydrogen fluoride, lithium oxides.

5.4 Personal protective equipment

Wear Self-contained breathing apparatus (SCBA), full protective clothing.

SECTION 6: Accidental Release Measures

6.1 General information

Use personal protective equipment indicated in Section 8 of this manual.

6.2 Leakage treatment and discard

Collect and deal with the spillage. Do not generate dust. Evacuate personnel to a safe area, avoid breathing dust. sweep up and shovel out; Store the leaked material in suitable, closed containers for disposal. Also, do not let the waste into the sewer.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid contact with water or acids. All operations should be carried out under adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

The material should be stored in the fluorinated polyethylene containers provided by the supplier. Store them in a cool, dry area with protective equipment. Avoid contact with moisture in the air. Do not place together with food or consumables. An indoor air exchange device should be equipped..

SECTION 8: Exposure controls/personal protection

8.1 Permissible exposure limits

No specific data available for this substance. For reference to related lithium compounds (as Li):

ACGIH TLV (for lithium hydroxide): 0.02 mg/m³ (ceiling limit).

8.2 Occupational safety

Provide adequate ventilation, eyewash stations, and safety showers.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye / face protection	Wear protective masks and safety glasses with side-shields or goggles under dusty conditions.
Skin Protection	Wear rubber gloves, Gloves must be checked before use. Remove gloves using the proper technique (without touching the glove's outer surface) to avoid skin contact with this product. Clean contaminated gloves after use. Wash and dry hands. Then dry hands.
Body protection	Chemical-resistant clothing, the type of protective equipment, must be chosen based on the concentration and amount of the dangerous substance in the specific workplace.
Respiratory protection	If exposure to hazardous environments is needed, please use dust masks.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Solid powder
Color	White
Odor	Odorless
Density	~1.9 g/cm ³ (literature)
Melting point	> 300°C
Initial boiling point	Decomposition
pH	≈7
High / low flammability or explosive limits	No data available
Water solubility	Very easily soluble in water.
Partition coefficient(log Kow)	No reliable data available
Decomposition temperature	No data available.

SECTION 10: Stability and Reactivity

10.1 Chemical stability

Very stable below 250°C.

Stable under recommended storage conditions. Hygroscopic.

10.2 Avoid contact conditions

Avoid contact with water and water vapor in the air.

10.3 Avoid contact materials

Water, strong acid, strong oxidizing agents..

10.4 Hazardous decomposition products

Carbon oxides, sulfur oxides, hydrogen fluoride, lithium oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	No data available; low acute toxicity expected.
Chronic toxicity	Prolonged exposure to lithium salts may cause systemic effects. Severe cases require medical evaluation.
Skin irritation or corrosion	No data available
Eye irritation or corrosion	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	There is no component greater than or equal to 0.1% in this product, which is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available
Specific target organ toxicity (first contact)	Inhalation may cause respiratory irritation
Specific target organ toxicity (repeated exposure)	No data available
Inhalation hazard	No data available

SECTION 12: Ecological information

12.1 Ecotoxicity

No data available. Avoid release into the environment.

12.2 Bio-mobility

No data available.

12.3 Biodegradability

No data available.

12.4 Abiotic degradation

No data available

12.5 Bioaccumulation

No data available

12.6 Other adverse effects

Prevent contamination of soil, waterways, and drains.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Disposed according to national and local regulations.

13.2 Discard Precautions

No information available.

SECTION 14: Transport Information

Not regulated as dangerous goods under UN, DOT, IMDG, or IATA transport regulations.

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not regulated

14.3 Transport hazard class

Not applicable

14.4 Packaging group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Ensure that the containers have no breakage or leak. Don't collide, overturn, drop or break the container when loading. Avoid direct sunlight during transport.

SECTION 15: Regulatory Information

Item	Regulations NO.	Regulations Name	Effective Date
1.Regulations in China	GB 6944-2012	Classification and code of dangerous goods	2012-12-01
	GB 12268-2012	List of dangerous goods	2012-12-01
	GB 13690-2009	General rule for classification and hazard communication of chemicals	2010-05-01
	GB 20593-2006	Safety rules for classification, precautionary labeling and precautionary statements of chemicals—Skin corrosion/ irritation	2008-01-01
	GB 20594-2006	Safety rules for classification, precautionary labeling and precautionary statements of chemicals—Serious eye damage/eye irritation	2008-01-01
	GB 20602-2006	Safety rules for classification, precautionary labeling and precautionary statements of chemicals—Hazardous to the aquatic environment	2008-01-01
	GB 20599-2006	Safety rules classification , precautionary labeling and precautionary statements of chemical – Specific target organ systemic toxicity – Single exposure	2008-01-01
	GBT 5817-2009	Hazardous degree classification of workplace with dust	2009-12-01
	GB/T 22234-2008	Labelling of chemicals based on GHS	2009-02-01
	SNT 2294.5-2011	Inspection and quarantine laboratory management—Part 5: Guidelines for safety management of dangerous chemicals	2009-04-01
	SNT 3216-2012	Inspection rules for import and export dangerous chemical products—Acidic corrosive substance-General requirements	2012-08-01
	GB 15258-2009	General rules for preparation of recautionary label for chemicals	2010-05-01
	GB/T 15098-2008	The principle of classification of transport packaging groups of dangerous goods	2009-04-01
	GB/T 16483-2008	Safety date sheet for chemical products—Content and order of sections	2009-02-01
	Decree NO.591 of the State Council	Regulation on the safety administration of dangerous chemicals	2011-12-01
	Decree NO.53 of the State Administration of work safety	Measures for the administration of the registration of hazardous chemicals	2012-08-01
	The environment protection department Order No.7th	Measures for environmental management of new chemical substance	2010-10-15
	Order of Ministry of communications in 2013 second	Regulations on the transporting hazardous substance management	2013-07-01
2.International regulations	International Convention No. 170th	Convention on the safe use of chemicals in workplace	1990-06-25

	ST/SG/AC.10/1/Rev.15	Recommendations on the transport of dangerous goods (15th Amendment) (Abbreviation: UNRTDG)	2007
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SECTION 16: Other Information

Issued By Shandong Aure Chemical Co., Ltd.

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Other Information

Disclaimer: The SDS is believed to be accurate and represents the best information currently available to us. However, we make no warranty for any loss resulting from the use of this sheet, such as special, incidental, or consequential losses. Users should make their own investigations to determine the suitability of the information for national laws and their particular purposes.