



## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

**Product identifier:**

Product name: LiFSI

Product code (SDS NO): 4528E-3

**Details of the supplier of the safety data sheet**

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

### 2. Hazards identification

**GHS classification and label elements of the product****Classification of the substance or mixture****HEALTH HAZARDS**

Acute toxicity (Oral): Category 3

Skin corrosion/irritation: Category 1B

Serious eye damage/eye irritation: Category 1

Reproductive toxicity: Category 1

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

**Label elements**

Signal word: Danger

**HAZARD STATEMENT**

Toxic if swallowed

Causes severe skin burns and eye damage

Causes serious eye damage

May damage fertility or the unborn child

Harmful to aquatic life

**PRECAUTIONARY STATEMENT****Prevention**

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

**Response**

IF exposed or concerned: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.



Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Disposal

Dispose of contents/container in accordance with local/national regulation.

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### 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Lithium bis(fluorosulfonyl)imide

Content (%):99(min)

Chemical formula:LiN(SO<sub>2</sub>F)<sub>2</sub>

Chemicals No, Japan:1-1247

CAS No.:171611-11-3

MW:187.07

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical attention/advice.

Immediately call a POISON CENTER or doctor/physician.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor/physician.

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### 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.



Wear protective gloves/protective clothing/eye protection/face protection.  
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

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## 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

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## 8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.



Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

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## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystal or powder

Color: White to light cream

Odor: Odourless

pH data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Melting point/Freezing point data is not available.

Decomposition temperature data is not available.

Flammability (gases, liquids and solids) data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Vapor pressure data is not available.

Relative vapor density (Air=1) data is not available.

Density and/or relative density data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.

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## 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Not available.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents

Hazardous decomposition products

Sulfur oxides, Nitrogen oxides, HF



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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
rat LD50:50-300mg/kg

##### Acute toxicity (Dermal)

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
rat LD50:>2500mg/kg

#### Irritant properties

##### Skin corrosion/irritation

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
rabbit Corrosive

##### Serious eye damage/irritation

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
Category 1

Allergenic and sensitizing effects data is not available.

#### Germ cell mutagenicity

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
Ames test: negativity  
chromosomal aberration test: negativity  
micronucleus test: negativity  
Reverse-mutation assay in bacteria (Ames test) :Negative  
Chromosome aberration test :Negative

Carcinogenic effects data is not available.

#### Reproductive toxicity

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
NOAEL 72.07mg/kg/day (Female rat)  
NOAEL 69.21mg/kg/day (Male rat)

#### STOT

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

#### Additional data

May cause lung disorders by massive inhalation of powdered substance.  
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

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## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

Harmful to aquatic life

#### Aquatic acute toxicity component(s) data

[Company proprietary data]  
(Lithium bis(fluorosulfonyl)imide)  
LC50(96hr):>100mg/L(Oryzias latipes)



LC50(96hr):>100mg/L(Zebrafish)

EC50(48hr):71mg/L(Ceriodaphnia dubia)

Aquatic chronic toxicity component(s) data

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

NOEC(14day):>101mg/L(Ceriodaphnia dubia)

NOEC(21day):>7.06mg/L(Ceriodaphnia dubia)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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### 13. Disposal considerations

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

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### 14. Transport Information

UN No.: 2923

Proper Shipping Name :

CORROSIVE SOLID, TOXIC, N.O.S.

Class or division : 8

Subsidiary hazard(s) : 6.1

Packing group : II

ERG GUIDE No.: 154

Special provisions No.: 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2923

Proper Shipping Name :

CORROSIVE SOLID, TOXIC, N.O.S.

Class or division : 8

Subsidiary hazard(s) : 6.1

Packing group : II

Special provisions No.: 274

IATA Dangerous Goods Regulations

UN No.: 2923

Proper Shipping Name :

CORROSIVE SOLID, TOXIC, N.O.S.

Class or division : 8

Subsidiary hazard(s) : 6.1

Hazard labels : Corrosive & Toxic

Packing group : II

Special provisions No.: A3; A803

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

MARPOL Annex V – Prevention of pollution by garbage discharge

Reproductive toxicity: cat.1, 1A, 1B



## Lithium bis(fluorosulfonyl)imide

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**15. Regulatory Information**

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

US major regulations

TSCA

Lithium bis(fluorosulfonyl)imide

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**16. Other information**

GHS classification and labelling

Acute Tox. 3: H301 Toxic if swallowed

Skin Corr. 1B: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

Repr. 1: H360 May damage fertility or the unborn child

Aquatic Acute 3: H402 Harmful to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2018).