



Safety Data Sheet

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

Product identifier:

Product name: 1mol/L LiFSI EMI-FSI

SDS No. : T794E-4

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

Section 2. Hazards identification

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

Acute toxicity (Oral): Category 4

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Reproductive toxicity: Category 1

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

Label elements

Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed

Causes severe skin burns and eye damage

Causes serious eye damage

May damage fertility or the unborn child

PRECAUTIONARY STATEMENT**Prevention**

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Disposal

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

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Lithium bis(fluorosulfonyl)imide

Content (%):13

Chemical formula:LiN(SO₂F)₂

Chemicals No, Japan:1-1247

CAS No.:171611-11-3

MW:187.07

Ingredient name:1-Ethyl-3-methylimidazolium bis(fluorosulfonyl)imide

Content (%):87

Chemical formula:C₈H₁₁F₂N₃O₄S₂

CAS No.:235789-75-0

MW:291.32

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

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or 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.

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

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

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 resistant or flame 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.

Section 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.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

Section 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, hot surfaces, sparks, open flames and other ignition sources. 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

Stainless steel



Section 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.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid(20°C)

Color: Colorless to pale yellow, Clear

Odor: None

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

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

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

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Insoluble

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

Vapor pressure data is not available.

Density and/or relative density: 1.49(20°C)

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

Particle characteristics data is not available.

Section 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



Nitrogen oxides, Sulfur oxides, HF, Fluorine compound

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

rat LD50:50-300mg/kg

Acute toxicity (Dermal)

[Data for components of the product]

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

rat LD50:>2500mg/kg

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

rabbit Corrosive

Serious eye damage/irritation

[Data for components of the product]

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

Category 1

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[Data for components of the product]

[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

[Data for components of the product]

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

NOAEL 72.07mg/kg/day (Female rat)

NOAEL 69.21mg/kg/day (Male rat)

Specific target organ toxicity (STOT)

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.



Section 12. Ecological Information**Toxicity****Aquatic toxicity**

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[Company proprietary data]

(Lithium bis(fluorosulfonyl)imide)

LC50(96hr):>100mg/L(Oryzias latipes)

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

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

Hazardous to the aquatic environment, long-term (chronic)

[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.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

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

Section 14. Transport Information

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Packing group : I

ERG GUIDE No.: 154

Special provisions No.: 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Packing group : I

Special provisions No.: 274

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Hazard labels : Corrosive



Packing group : I
Special provisions No.: A3; A803
Environmental hazards
Marine pollutants (yes/no) : no
MARPOL Annex V – HME (Harmful to the Marine Environment)
Reproductive toxicity: cat.1, 1A, 1B
Lithium bis(fluorosulfonyl)imide

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Lithium bis(fluorosulfonyl)imide

Other regulatory information

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

Section 16. Other information

GHS classification and labelling

Acute toxicity, Category 4: H302 Harmful if swallowed

Skin corrosion/irritation, Category 1: H314 Causes severe skin burns and eye damage

Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage

Reproductive toxicity, Category 1: H360 May damage fertility or the unborn child

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2020 Edition (Incorporating Amendment 40–20)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2022 TLVs and BEIs. (ACGIH)

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 2021).