



## Lithium fluoride (cas 7789-24-4) MSDS

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifiers

Product name : Lithium fluoride

Product Number : N/A  
Brand : Anonymous  
CAS-No. : 7789-24-4

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

Identified uses : Laboratory chemicals, Manufacture of substances

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Oral (Category 3)  
Skin irritation (Category 2)  
Eye irritation (Category 2)  
Specific target organ toxicity - single exposure (Category 3)

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

Toxic if swallowed. Contact with acids liberates very toxic gas. Irritating to eyes, respiratory system and skin.

#### 2.2 Label elements

##### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word : Danger

Hazard statement(s)

H301 : Toxic if swallowed.  
H315 : Causes skin irritation.  
H319 : Causes serious eye irritation.  
H335 : May cause respiratory irritation.

Precautionary statement(s)

P261 : Avoid breathing dust.  
P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH032 : Contact with acids liberates very toxic gas.

##### According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrases(s)

R25 : Toxic if swallowed.  
R32 : Contact with acids liberates very toxic gas.  
R36/37/38 : Irritating to eyes, respiratory system and skin.

S-phrases(s)

S22 : Do not breathe dust.  
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.  
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### 2.3 Other hazards - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula : FLi  
Molecular Weight : 25,94 g/mol

Component Concentration

#### Lithium fluoride

CAS-No. 7789-24-4  
EC-No. 232-152-0

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy., Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, 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.

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder

### 5.2 Special hazards arising from the substance or mixture

Hydrogen fluoride, Lithium oxides

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Never allow product to get in contact with water during storage. Do not store near acids.

### 7.3 Specific end uses

no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |   |                                |
|---|--------------------------------|
| a) Appearance                                   | Form: powder                   |
| b) Odour  | no data available              |
| c) Odour Threshold                              | no data available              |
| d) pH   | 7,0 - 8,5 at 0,26 g/l at 25 °C |
| e) Melting point/freezing point                 | Melting point/range: 845 °C    |
| f) Initial boiling point and boiling range      | no data available              |
| g) Flash point                                  | not applicable                 |
| h) Evaporation rate                             | no data available              |
| i) Flammability (solid, gas)                    | no data available              |
| j) Upper/lower flammability or explosive limits | no data available              |
| k) Vapour pressure                              | no data available              |
| l) Vapour density                               | no data available              |
| m) Relative density                             | 2,64 g/mL at 25 °C             |
| n) Water solubility                             | ca.0,3 g/l at 20 °C            |
| o) Partition coefficient: n-octanol/water       | no data available              |
| p) Autoignition temperature                     | no data available              |
| q) Decomposition temperature                    | no data available              |
| r) Viscosity                                    | no data available              |

- s) Explosive properties no data available
- t) Oxidizing properties no data available

## 9.2 Other safety information

no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Avoid moisture.

### 10.5 Incompatible materials

Strong oxidizing agents, Strong acids

### 10.6 Hazardous decomposition products

Reacts with water to form: - Hydrogen fluoride

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 143 mg/kg

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Lithium fluoride)

#### Reproductive toxicity

Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data.

#### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

#### Specific target organ toxicity - repeated exposure

no data available

#### Aspiration hazard

no data available

#### Potential health effects

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes serious eye irritation.

#### Signs and Symptoms of Exposure

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy., Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, 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.

**Additional Information**

RTECS: Not available

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

no data available

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

no data available

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 3288

IMDG: 3288

IATA: 3288

**14.2 UN proper shipping name**

ADR/RID: TOXIC SOLID, INORGANIC, N.O.S. (Lithium fluoride)

IMDG: TOXIC SOLID, INORGANIC, N.O.S. (Lithium fluoride)

IATA: Toxic solid, inorganic, n.o.s. (Lithium fluoride)

**14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

no data available

**15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

**15.2 Chemical Safety Assessment**

no data available

**16. OTHER INFORMATION****Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions.

It does not represent any guarantee of the properties of the product. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product.

See reverse side of invoice or packing slip for additional terms and conditions of sale.