

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Name:** Lithium-7 Fluoride

**Product Number:** All applicable American Elements product codes, e.g. LI7-F-01-P

**CAS #:** 17409-87-9

**Relevant identified uses of the substance:** Scientific research and development

**Supplier details:**

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

**Emergency telephone number:**

+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2 GHS Label elements, including precautionary statements



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/ fume/ gas/ mist/ Vapors/ spray.

P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ eye protection/ face protection.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.  
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS  
Contact with acids liberates very toxic gas.

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.1 Substances**

Chemical characterization : Isotopically labeled

Formula : F7Li

Molecular weight : 26.01 g/mol

CAS-No. : 17409-87-9

EC-No. : 241-438-4

Hazardous components

Component Classification Concentration

Lithium-7Li fluoride

Acute Tox. 3; Skin Irrit. 2; Eye

Irrit. 2A; STOT SE 3; H301,

H315, H319, H335

<= 100 %

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## **SECTION 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. Move out of dangerous area. Hydrofluoric

(HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24

hours depending on the concentration of HF. After decontamination with water, further damage can occur due to

penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the

effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until

burning ceases.

More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician

is experienced in this technique, due to the potential for tissue injury from increased pressure.

Absorption can readily

occur through the subungual areas and should be considered when undergoing decontamination.

Prevention of

absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets

or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias

should be monitored for, since they can occur after exposure.

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. First treatment with

calcium gluconate paste.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

5.1 Extinguishing media

Suitable extinguishing media

Dry powder

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

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## **SECTION 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.

For personal protection see section 8.

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.

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## **SECTION 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.  
For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.  
Store under inert gas. hygroscopic  
Never allow product to get in contact with water during storage. Do not store near acids.

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

Components with workplace control parameters

Component CAS-No. Value Control  
parameters

Basis

Lithium-7Li fluoride 17409-87-9 TWA 2.500000  
mg/m<sup>3</sup>

USA. Occupational Exposure Limits  
(OSHA) - Table Z-1 Limits for Air

Contaminants

Remarks CAS number varies with compound  
TWA 2.500000  
mg/m<sup>3</sup>

USA. Occupational Exposure Limits  
(OSHA) - Table Z-2

Z37.28-1969

TWA 2.500000  
mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values  
(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices  
(see BEI® section)

Not classifiable as a human carcinogen  
varies

TWA 2.500000  
mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values  
(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices  
(see BEI® section)

Not classifiable as a human carcinogen  
varies

TWA 2.5 mg/m<sup>3</sup> USA. Occupational Exposure Limits  
(OSHA) - Table Z-1 Limits for Air

Contaminants

CAS number varies with compound

TWA 2.5 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values  
(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices  
(see BEI® section)

Not classifiable as a human carcinogen  
varies

Biological occupational exposure limits

Component CAS-No. Parameters Value Biological  
specimen

Basis

Lithium-7Li fluoride 17409-87-9 Fluoride 3.0000  
mg/g

Urine ACGIH - Biological  
Exposure Indices  
(BEI)

Remarks Prior to shift (16 hours after exposure ceases)

Fluoride 10.0000  
mg/g

Urine ACGIH - Biological  
Exposure Indices  
(BEI)

End of shift (As soon as possible after exposure ceases)

Fluoride 2 mg/l Urine ACGIH - Biological  
Exposure Indices  
(BEI)

Prior to shift (16 hours after exposure ceases)

Fluoride 3 mg/l Urine ACGIH - Biological  
Exposure Indices  
(BEI)

End of shift (As soon as possible after exposure ceases)

## 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.

#### 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).

#### Control of environmental exposure

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

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: solid

b) Odor No data available

c) Odor Threshold No data available

d) pH 7.0 - 8.5 at 0.26 g/l at 25 °C (77 °F)

e) Melting point/freezing

point

Melting point/range: 845 °C (1,553 °F)

f) Initial boiling point and

boiling range

No data available

g) Flash point No data available

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower

flammability or

explosive limits

No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Relative density No data available

n) Water solubility ca.0.3 g/l at 20 °C (68 °F)

o) Partition coefficient: noctanol/

water

No data available

p) Auto-ignition

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

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## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 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

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, Lithium oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

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-7Li fluoride)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### 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. Effects on or via lactation Suspected human reproductive

toxicant

No data available  
Specific target organ toxicity - single exposure  
May cause respiratory irritation.  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
Additional Information  
RTECS: Not available  
Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.  
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.  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence

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## **SECTION 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  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
12.6 Other adverse effects  
No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

13.1 Waste treatment methods  
Product  
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste



disposal service to dispose of this material. 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.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)  
UN number: 3288 Class: 6.1 Packing group: III  
Proper shipping name: Toxic solid, inorganic, n.o.s. (Lithium-7Li fluoride)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No  
IMDG  
UN number: 3288 Class: 6.1 Packing group: III EMS-No: F-A, S-A  
Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Lithium-7Li fluoride)  
IATA  
UN number: 3288 Class: 6.1 Packing group: III  
Proper shipping name: Toxic solid, inorganic, n.o.s. (Lithium-7Li fluoride)

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## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components  
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.  
SARA 313 Components  
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.  
SARA 311/312 Hazards  
Acute Health Hazard, Chronic Health Hazard  
Massachusetts Right To Know Components  
No components are subject to the Massachusetts Right to Know Act.  
Pennsylvania Right To Know Components  
Lithium-7Li fluoride  
CAS-No.  
17409-87-9  
Revision Date  
2008-06-01  
New Jersey Right To Know Components  
Lithium-7Li fluoride  
CAS-No.  
17409-87-9  
Revision Date  
2008-06-01  
California Prop. 65 Components  
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## **SECTION 16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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 in 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. American Elements 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. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.