

# Safety Data Sheet



## 1: Identification

### 1.1: Product Identifier

Product Name: 6LiF

Product Number(s): 1LIF-0003F

CAS Number: 14885-65-5

SDS Document Number: 001787

### 1.2: Recommended Uses and Restrictions

Recommended Uses

Manufacture of substances

Restrictions

Not for food or drug use.

### 1.3: Supplier Contact Information

APL Engineered Materials, Inc.

2401 N. Willow Rd.

Urbana, IL 61802

Phone: 217-367-1340

Fax: 217-367-9084

### 1.4: Emergency Phone Number

International: +01-813-248-0585

United States: 800-255-3924

## 2: Hazards Identification

### 2.1: Classifications

Acute Toxicity, Oral - Category 3

Eye Damage/Irritation - Category 2A

Skin Corrosion/Irritation - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3

### 2.2: GHS Label Elements

Pictograms



Signal Word: Danger

Hazard Statements

H301: Toxic if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.

Precautionary Statements

P261: Avoid breathing dust.  
P264: Wash hands 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, clothing, and eyewear.  
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
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 or doctor/physician if you feel unwell.  
P321: Specific treatment. Call a physician or poison control center.  
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 licensed disposal facility.

2.3: Hazards Not Otherwise Classified or Not Covered by GHS

Contact with acids liberates very toxic gas.

2.4: Amount(s) of substances with unknown toxicity

None

**3: Composition/Information on Ingredients**

3.1: .Ingredient	.Weight%	.Formula	.CAS Number	.Mol Wt	.EC Number
LiF6	100	LiF6	14885-65-5	25.01	238-958-9

3.2: Other Hazardous components

none

3.3: Trade Secret Disclaimer

none

3.4: Synonyms

none

**4: First Aid Measures**

4.1: First Aid

General

Take victim immediately to a hospital.  
Remove person from area of exposure and remove any contaminated clothing

In contact with eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

Seek medical attention if irritation develops or persists

In contact with skin

Wash thoroughly with soap and plenty of water. Remove all contaminated clothing for proper laundering. Seek medical attention if irritation develops or persists.

If swallowed

If conscious and alert, rinse mouth and drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical aid.

If inhaled

Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

#### 4.2: Most important symptoms and effects; acute and delayed

Fatal if in contact with skin.

Toxic if swallowed.

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

no data available

### 5: Fire Fighting Measures

#### 5.1: Fire extinguishing media

dry chemical

#### 5.2: Specific hazards arising from the substance or mixture

hydrofluoric acid and hydrofluoric acid fumes

lithium oxide

#### 5.3: Special protective equipment and precautions for firefighters.

Wear self contained breathing apparatus for fire fighting if necessary

### 6: Accidental Release Measures

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

Avoid breathing dust.

For personal protection see section 8.

Avoid dust formation.

Ensure adequate ventilation.

Avoid breathing vapors, mist or gas.

Use personal protective equipment.

#### 6.2: Methods and materials for containment and cleaning up.

Sweep up and shovel.

Do not flush with water or aqueous cleansing agents.

Keep in suitable, closed containers for disposal.

#### 6.3: Environmental precautions

Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

#### 6.4: Disposal

Dispose of in accordance with local regulations.  
See section 13.

### **7: Handling and Storage**

#### 7.1: Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.  
Avoid formation of dust and aerosols.  
Avoid contact with skin and eyes.  
See precautionary statements in section 2.2.

#### 7.2: Conditions for safe storage

Store away from acids.  
Store away from moisture.  
Store in a dry and well-ventilated place.  
Keep container tightly closed.

#### 7.3: Incompatibilities

Water  
acids

### **8: Exposure Controls/Personal Protection**

#### 8.1: Control parameters

OSHA permissible exposure limit (PEL)

LiF: 2.5 mg/m<sup>3</sup>

ACGIH threshold limit value (TLV)

LiF: 2.5 mg/m<sup>3</sup>

NIOSH recommended exposure limit (REL)

LiF: 2.5 mg/m<sup>3</sup>

#### 8.2: Engineering controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower  
Use adequate ventilation to keep airborne concentrations low

#### 8.3: Personal protective equipment

Eyes

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin

Wear appropriate, chemical-resistant protective gloves to prevent skin exposure.

Wear appropriate, chemical resistant clothing to prevent skin exposure

Clothing

Wear appropriate protective clothing to prevent skin exposure

Remove all soiled and contaminated clothing immediately

Respirator

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149.  
Always use a NIOSH or European Standard EN 149 approved respirator when necessary

## 9: Physical and Chemical Properties

### 9.a: Appearance

State: Solid

Form: Powder or spheres

Color: White or colorless

9.b: Odor: no data available

9.c: Odor threshold: no data available

9.d: pH: no data available

9.e: Melting point / freezing point: 845 °C (1,553 °F)

9.f: Initial boiling point and range: 1,676 °C (3,049 °F)

9.g: Flashpoint: no data available

9.h: Evaporation rate: no data available

9.i: Flammability (solid, gas): no data available

9.j: Upper/lower flammability or explosive limits: no data available

9.k: Vapor pressure: no data available

9.l: Vapor density: no data available

9.m: Relative density: no data available

9.n: Water Solubility: 0.134 g/100 mL (25 °C)

9.o: Partition coefficient: n-octanol/water: no data available

9.p: Auto-ignition temperature: no data available

9.q: Decomposition temperature: no data available

9.r: Viscosity: no data available

## 10: Stability and Reactivity

### 10.1: Reactivity

Reacts with acids to release toxic HF fumes.

### 10.2: Chemical stability

Stable under recommended storage conditions.

### 10.3: Possibility of hazardous reactions

Reacts with acids to release toxic HF fumes.

### 10.4: Conditions to avoid

exposure to water

do not generate dust

acids

### 10.5: Incompatible materials

See section 7.3.

10.6: Hazardous decomposition products  
hydrofluoric acid fumes

**11: Toxicological Information**

11.1: Toxicity data

Acute toxicity - Oral

LD50 Oral - Rat - 143 mg/kg

Acute toxicity - Dermal

no data available

Acute toxicity - Inhalation

no data available

Skin corrosion/irritation

no data available

Eye damage/irritation

no data available

Respiratory irritation

no data available

Germ cell mutagenicity

no data available

Reproductive toxicity

Evidence of reproductive toxicity

Specific organ toxicity - single exposure

no data available

Specific organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional information

no data available

ACGIH carcinogenicity

The ACGIH has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

IARC carcinogenicity

The IARC has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

NTP carcinogenicity

The NTP has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

OSHA carcinogenicity

OSHA has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

11.2: Routes of exposure

oral

skin  
eyes  
inhalation  
ingestion

### 11.3: Symptoms of exposure

See section 4.2

### 11.4: Delayed and immediate effects of exposure

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.,  
Suspected of causing genetic defects.

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

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

## 12: Ecological Information

### 12.1: Ecotoxicity

Toxicity to fish

No data available

Toxicity to daphnia and other aquatic invertebrates

No data available

Toxicity to algae/bacteria

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: Other effects

no data available

## 13: Disposal Considerations

### 13.1: Waste treatment methods

Consult state, local or national regulations to ensure proper disposal.

### 13.2: Safe handling

See section 7.1 .

### 13.3: Product disposal

Contact a licensed professional waste disposal service to dispose of this material.

#### 13.4: Packaging disposal

Dispose of as unused product.

### 14: Transport Information

#### 14.1: DOT(US)

UN Number: 3288

Proper Shipping Name: Toxic solid, inorganic, n.o.s. (Lithium-6 fluoride)

Packing Group: III

Shipping Class(es): 6.1

Marine Pollutant: No

#### 14.2: IMDG

UN Number: 3288

Proper Shipping Name: Toxic solid, inorganic, n.o.s. (Lithium-6 fluoride)

Packing Group: III

Shipping Class(es): 6.1

Marine Pollutant: No

#### 14.3: IATA

UN Number: 3288

Proper Shipping Name: Toxic solid, inorganic, n.o.s. (Lithium-6 fluoride)

Packing Group: III

Shipping Class(es): 6.1

#### 14.4: Special Shipping Precautions

None

### 15: Regulatory Information

#### 15.1: TSCA inventory

This material is listed on the TSCA inventory.

#### 15.2: SARA 302 components

This material is not subject to the reporting requirements of SARA Title III, Section 302.

#### 15.3: SARA 313 components

This material is not subject to the reporting requirements of SARA Title III, Section 313.

#### 15.4: SARA 313/312 hazards

Acute health hazard.

Chronic health hazard.

#### 15.5: Other information

New Jersey Right To Know Components -This product contains materials listed on the New Jersey Right to Know list

Pennsylvania Right To Know Components -This product contains materials listed on the Pennsylvania Right to Know list

Massachusetts Right To Know Components - This product does not contain materials listed on the Massachusetts Right to Know list

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.

## 16: Additional Information

### 16.1: NFPA

Health: 2

Fire: 0

Reactivity: 0

Special:

### 16.2: HMIS

Health: 2

Chronic: \*

Flammability: 0

Physical Hazard: 0

### 16.3: Disclaimers

For industrial use only. Not for drug, household or other uses

The information herein is believed to be accurate and reliable as of the date compiled. However, APL Engineered Materials, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.

### 16.4: References

Information contained on this SDS sheet was obtained from some or all of the following sources: American Conference of Governmental Industrial Hygienists (ACGIH), TLVs and BEIs; National Institute for Occupational Safety and Health (NIOSH), Pocket Guide to Chemical Hazards; European Chemicals Agency, <http://echa.europa.eu/>; The National Institute of Health, U.S National Library of Medicine, TOXNET, Toxicology Data Network; and the Registry of Toxic Effects of Chemical Substances (RTECS) database.

### 16.5: Version

Preparation Date: 18-Nov-2015

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Version Number: GHS 1.0