

## Material Safety Data Sheet

Identity: Lithium fluoride

Formula: LiF

### SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 25.94

CAS #	OSHA PEL	ACGIH TLV	%
7789-24-4	2.5mg(F)/m <sup>3</sup>	2.5mg(F)/m <sup>3</sup>	0-100

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1676 °C

1047 °C Melting Point: 845 °C

Solubility in water: Slightly

Vapor Pressure (vs. air or mmHg): 1 mm at

Specific gravity (water=1): 2.64gm/cc at 20 °C

Flash Point: N/A

*Appearance and odor:* White powder and pieces, no odor

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:* Non-flammable

*Explosive Limits:* LEL: N/A

UEL: N/A

*Extinguishing Media:* Use suitable extinguishing agent for surrounding material and type of fire

#### *Special Fire Fighting Procedures:*

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:* When heated to decomposition, may emit, toxic fumes of fluorine. Does not react with water at red hot heat

### SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Acids and acid fumes

*Hazardous Decomposition or Byproducts:* Fumes of fluorine

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

### SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? Yes      Other? No

#### *Signs and Symptoms of Overexposure:*

*Inhalation:* May cause tremors of hands, nausea, slurred speech lethargy, vertigo, thirst, increased volume of urine, anorexia, muscular weakness, changes in ECG, edema, hypothyroidism, memory impairment, seizures, kidney damage, shock, hypotension, mottle teeth, sclerosis of bones, calcification of ligaments, wasting, cachia and anemia

*Ingestion:* May cause nausea, vomiting, diarrhea, abdominal distress, stupor, weakness, tremors, convulsions, collapse, dyspnea, respiratory and cardiac failure

*Skin:* May cause redness, itching, inflammation and burning

*Eye:* May cause redness, itching, watering and burning

*Health Hazards (Acute and Chronic):*

**Inhalation:**

Acute: May cause lithium toxicity, irritation to the respiratory tract and mucous membrane. May aggravate asthma attacks, may cause lung damage such as lung granulomas and pulmonary edema. Large doses may cause immediate defecation, writhing, liver edema and necrosis, portal congestion, pleural effusion and hemorrhagic ascites, respiratory and cardiac failure.

Chronic: May cause lithium toxicity, fluorosis, pulmonary fibrosis, severe bone changes, hyperemia, cellular eosinophilia and vascular granulomata, acute chemical pneumonitis, sub-acute bronchitis and focal hypertopic emphysema

**Ingestion:**

Acute: From 1 gram, may cause gastrointestinal irritation, may affect renal and hepatic functions, circulatory, enzyme and nervous system

Chronic: POISON, 5-10 grams can be fatal.

**Skin:**

Acute: Strong irritant

Chronic: May cause dermatitis, skin lesions and ulcerations

**Eye:**

Acute: Strong irritant

Chronic: May cause corneal damage

**Target Organs:** May affect the skeleton, kidneys, central nervous system, respiratory system and skin

**Carcinogenicity:** NTP? No

IARC Monographs? No

OSHA Regulated? No

**Medical Conditions Aggravated by Exposure:** Pre-existing respiratory, skin and gastrointestinal disorders

**Emergency and First Aid Procedures:**

**Inhalation:** Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

**Ingestion:** Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

**Skin:** Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

**Eye:** Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE**

**Steps to be taken in case material is released or spilled:**

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

**Waste disposal method:** Dispose of in accordance with state, local, and federal regulations.

**Hazard Label Information:** Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

**SECTION VIII - CONTROL MEASURES**

**Protective Equipment Summary (Hazard Label Information):**

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

**Ventilation:** Handle in controlled, enclosed environment

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): NOT Recommended.

**Work/Hygienic/Maintenance Practices:**

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established