



Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300
Poison Center: (800) 562-8236
Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Lithium fluoride

Formula: LiF

SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM 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)/m3	2.5mg (F)/m3	0.0-100.0%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1680.00°C

Vapor Pressure (vs. air or mmHg): 1mm at 1047.0°C

Melting Point: 845.00°C

Specific gravity (water=1): 2.635gm/cc at 20°C

Solubility in water: Soluble /

Flash Point: N/A

Soluble in acids

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



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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

To the best of our knowledge the chemical, physical and toxicological properties of lithium fluoride have not been thoroughly investigated and recorded.

Toxicity of lithium compounds is a function of their solubility in water. Lithium ion has central nervous system toxicity. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Inorganic fluorides are generally highly irritating and toxic. Chronic fluorine poisoning, or "fluorosis," occurs among miners of cryolite, and consists of sclerosis of the bones, caused by fixation of the calcium by fluorine. There may also be some calcification of the ligaments. The teeth are mottled, and there is osteosclerosis and osteomalacia. Large doses can cause very severe nausea, vomiting, and diarrhea; aggravate attacks of asthma and severe bone changes, making normal movements painful. Some signs of pulmonary fibrosis are noted. Some enzyme system effects are reported. Irritants to the eyes, skin and mucous membranes. Loss of weight, anorexia, anemia, wasting and cachexia and dental defects are among the common findings in chronic fluorine poisoning. There may be an eosinophilia and impairment of growth in young workers. Symptoms of intoxication include gastric, intestinal, circulatory, respiratory and nervous complaints and rashes. (Sax, Dangerous Properties of Industrial Materials, eighth edition).

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, and 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, sever bone changes, hyperemia, cellular eosinophilia and vascular granulomata, acute chemical pneumonitis, sub acute bronchitis and focal hypertrophic emphysema

Ingestion:

Acute: Poison by ingestion, 5-10 grams can be fatal. May cause gastrointestinal irritation from less than 1 gram.

Chronic: May affect renal and hepatic functions, circulatory, enzyme and nervous system.



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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:

Local Exhaust: To maintain concentration at or below PEL, TLV

Special: Handle in a controlled, enclosed environment

Mechanical (General): Not recommended

Other: Handle and store in an inert gas such as argon

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