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SAFETY DATA SHEET

Identity: Aluminum fluoride Formula: AlF3

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: 83.98

CAS #	OSHA PEL	ACGIH TLV	%
7784-18-1	2.5mg (F)/n3	2.5mg (F)/m3	0.0-100.0

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1537.00C (2798.6F)
Melting Point: 1291.00C(2355.8F)
Evaporation Rate: N/A
Solubility in water: Soluble

Vapor Pressure: (vs. air or mmHg): 1at 1238.0C(2260.4(F)
Density: 2.882 at 25.0°C
Flash Point: N/A

Appearance and odor: White powder or pieces, no order.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: N/A *Explosive Limits*: LEL: N/A UEL: N/A
Extinguishing Media: Use dry chemical, water spray, carbon dioxide, or foam.

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, aluminum fluoride may emit toxic fumes of fluorine. May react violently when impacted in contact with sodium and potassium. May explode when heated with reducing agents.

SECTION V - REACTIVITY DATA

Stability: Stable
Conditions to Avoid (stability): None
Incompatibility: Reducing agents, sodium, potassium.
Hazardous Decomposition or Byproducts: Fumes of fluorine, hydrofluoric acid and aluminum
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? N

Aluminum compounds have many commercial uses and are commonly found in industry. Many of these materials are active chemically and thus exhibit dangerous toxic and reactive properties. The halides are generally irritants. (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 ostemalacia. 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 of 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 poising. 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 ulcers of the upper respiratory tract, excessive salivation, vomiting, thirst, sweating, colic and diarrhea. Fibrosis may cause: sclerosis of the bones, calcification of ligaments, mottled teeth, osteosclerosis, ostemalacia, loss of weight, anorexia, anemia, wasting, cachia and dental defects.
Ingestion: May cause nausea, vomiting, diarrhea, abdominal burning, cramp-like pain, a stiff spine, calcification of ligaments of the ribs and pelvis.
Skin: May cause redness, itching and chemical burns.
Eye: May cause redness, itching, watering and chemical burns.

Health Hazards (Acute and Chronic):

Inhalation:
Acute: Severe irritant and corrosive to the respiratory tract and mucous membranes. May cause asthma attacks, excessive salivation, thirst, and sweating, vomiting, colic, diarrhea, and lung granulomas.

Chronic: May cause fluoride, pulmonary fibrosis, severe bone changes, liver enlargement and inflammation. Non-reversible hyperactivity with nocturnal asthma.

Ingestion:
Acute: Moderately toxic route. May cause gastrointestinal irritation, nausea, vomiting, diarrhea and cramp-like pains.
Chronic: May effect the circulatory, enzyme and nervous system.

Skin:
Acute: Severe irritant and corrosive. May cause rashes and skin granulomas.
Chronic: Severe irritant corrosive.

Eye:
Acute: Severe irritant and corrosive.
Chronic: Severe irritant and corrosive.

Target Organ: May affect the skeleton, kidneys, central nervous system, respiratory system, liver, bone, eyes and skin.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No
Medical Conditions Aggravated by Exposure: Can cause or aggravate attacks of asthma.

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:	Do not induce vomiting, seek medical attention immediately.
Skin:	Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention immediately.
Eye:	Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention immediately.

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-Control Measures. Isolate spill area, provide ventilation. 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. Use with adequate ventilation.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact, goggles or face shield.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): 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