

Current Version: 2.0  
Revision Date: Sep 5, 2012

## Material Safety Data Sheet

Identity: Aluminum fluoride

Formula: AlF<sub>3</sub>

### 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: 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)

Vapor Pressure: (vs. air or mmHg): 1at 1238.0C(2260.4(F)

Melting Point: 1291.00C(2355.8F)

Density: N/A g/cm<sup>3</sup>

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: soluble

*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.

*Unusual Fire and Explosion Hazards:*

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

*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, 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 effect 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