

Common Name: **ALUMINUM FLUORIDE**

Synonyms: Aluminum Trifluoride

CAS No: 7784-18-1

 Molecular Formula:  $\text{AlF}_3$ 

RTK Substance No: 0059

Description: Odorless, white or colorless, crystalline powder

## HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>2 - Health</b> <b>0 - Fire</b> <b>0 - Reactivity</b> DOT#: UN 1759 ERG Guide #: 154 Hazard Class: 8 (Corrosive)	Extinguish fire using an agent suitable for type of surrounding fire. <b>Aluminum Fluoride</b> itself does not burn. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Aluminum Oxides</i> , <i>Fluorine</i> and <i>Hydrogen Fluoride</i> (in the presence of water). Use water spray to keep fire-exposed containers cool.	<b>Aluminum Fluoride</b> , in contact with SODIUM and POTASSIUM, is sensitive to impact and a violent reaction may occur. <b>Aluminum Fluoride</b> will explode when heated with REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES). <b>Aluminum Fluoride</b> is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and ACID FUMES.

## SPILL/LEAKS

**Isolation Distance:**

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Moisten spilled material first or use a HEPA-filter vacuum for clean-up and place into covered containers for disposal.

Harmful to aquatic life in very low concentrations.

## PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	Odorless
<b>Flash Point:</b>	Noncombustible
<b>Vapor Density:</b>	2.9 (air = 1)
<b>Vapor Pressure:</b>	1 mm Hg at 2,260°F (1,238°C)
<b>Specific Gravity:</b>	3.1 (water = 1)
<b>Water Solubility:</b>	Soluble
<b>Boiling Point:</b>	2,799°F (1,537°C)
<b>Melting Point:</b>	2,356°F (1,291°C)
<b>Molecular Weight:</b>	84

## EXPOSURE LIMITS

**OSHA:** 2.5 mg/m<sup>3</sup>, 8-hr TWA

**NIOSH:** 2.5 mg/m<sup>3</sup>, 10-hr TWA

**ACGIH:** 2.5 mg/m<sup>3</sup>, 8-hr TWA

**IDLH:** 250 mg/m<sup>3</sup>

 (All of the above are for *Fluorides*)

## PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Neoprene, Natural Rubber, Polyvinyl Chloride and Viton
<b>Coveralls:</b>	DuPont Tyvek®
<b>Respirator:</b>	>2.5 mg/m <sup>3</sup> - Full facepiece APR with High efficiency filter >25 mg/m <sup>3</sup> - Supplied air

## HEALTH EFFECTS

<b>Eyes:</b>	Irritation
<b>Skin:</b>	Irritation
<b>Inhalation:</b>	Nose, throat and lung irritation with coughing, wheezing and shortness of breath  Headache, nausea and vomiting, weakness, convulsions and collapse

## FIRST AID AND DECONTAMINATION

<b>Remove</b>	the person from exposure.
<b>Flush</b>	eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.
<b>Quickly</b>	remove contaminated clothing. Immediately wash contaminated skin with large amounts of water.
<b>Begin</b>	artificial respiration if breathing has stopped and CPR if necessary.
<b>Transfer</b>	promptly to a medical facility.