SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Aluminum fluoride, anhydrous**

PRODUCT NUMBER: 1015

CAS NUMBER: 7784-18-1

SYNONYMS: Aluminum trifluoride

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram

Signal Word **Warning**

Hazard Statements

H300	Fatal if swallowed.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

Precautionary Phrases

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing.
P270	Do not eat, drink, or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353	IF ON SKIN: (or hair): Remove/take off immediately all contaminated clothing. Rinse SKIN with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

HMIS RATING:
Health: 2 Fire: 0 Reactivity: 1
NFPA RATING:
Health:2 Flammability:0 Instability:0

EMERGENCY OVERVIEW: Material hydrolyzes in contact with moisture releasing toxic and corrosive hydrofluoric acid. Causes delayed, deep, slow healing, painful burns. Poison by ingestion.
POTENTIAL HEALTH EFFECTS: Ingestion, inhalation, skin, and eyes
EYE CONTACT: May cause serious eye damage. Effects may not immediately appear.
SKIN CONTACT: Prolonged contact with skin may cause delayed deep slow healing painful burns.
INHALATION: Dust or hydrofluoric acid fumes may cause severe irritation to the respiratory tract.
INGESTION: May cause salivation, nausea, vomiting, diarrhea, and painful abdominal burns.
ACUTE HEALTH EFFECTS: Fluoride poisoning may cause nausea, vomiting, diarrhea, weakness, coma, and respiratory paralysis. Hydrofluoric acid may cause eye and skin burns and pulmonary edema.
CHRONIC: Prolonged exposure to soluble fluorine compounds can cause deterioration of bone and tooth structure, and kidney damage.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: AlF_3

Molecular Weight: 83.98

CHEMICAL NAME	CAS#	%	ACGIH (TWA)	OSHA (PEL)
Aluminum fluoride, anhydrous	7784-18-1	100	2 mg/m3 (as Al) 2.5 mg/m3 (as F)	No data 2.5 mg/m3 (as F)

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eyelids open. Get immediate medical attention.
SKIN EXPOSURE: Wash the affected area with water. Remove contaminated clothes if necessary. Apply calcium gluconate jelly or water soluble calcium salts as antidote. Seek medical assistance.
INHALATION: Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.
INGESTION: Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not applicable
AUTO IGNITION TEMPERATURE: None
EXPLOSION LIMITS: None
EXTINGUISHING MEDIUM: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
SPECIAL FIRE FIGHTING PROCEDURES: If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: If involved in a fire this material may emit toxic hydrofluoric acid fumes and aluminum oxide.
UNUSUAL FIRE OR EXPLOSION HAZARDS: No unusual fire or explosion hazards.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Emergency response teams will require self-contained breathing apparatus. Spillage in an area not adequately ventilated may require an evacuation of area.
ENVIRONMENTAL PRECAUTIONS: Do not let product enter drains. Should not be released into the environment.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Handle material in an efficient fume hood. Prolonged exposure to the atmosphere may lead to degradation of the product.
CONDITIONS FOR SAFE STORAGE: Store material in a tightly sealed bottle away from moisture.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Component	Exposure Limits	Basis	Entity
Aluminum fluoride	2.5 mg/m^3	TWA	ACGIH
	2 mg/m^3	TWA	OSHA
	2.5 mg/m^3	TWA	OSHA
	250 mg/m^3	IDLH	NIOSH
	2 mg/m^3	TWA	NIOSH

EYE PROTECTION: Always wear approved safety glasses when handling a chemical substance in the laboratory.
SKIN PROTECTION: Wear appropriate chemical resistant rubber gloves. Wash hands thoroughly after handling material.
VENTILATION: If possible, handle the material in an efficient fume hood.
RESPIRATOR: In the absence of adequate ventilation a respirator should be worn. The use of a respiratory requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: White powder
MOLECULAR WEIGHT: 83.98
MELTING POINT: 1291° C
SPECIFIC GRAVITY: 3.1 at 25° C
BOILING POINT: 1537° C
VAPOR PRESSURE: 1mm (1238° C)
SOLUBILITY IN WATER: .56g/100ml (25° C)
ODOR: None

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Moisture sensitive. Stable under normal conditions.
HAZARDOUS POLYMERIZATION: No hazardous polymerization
CONDITIONS TO AVOID: Contact with moisture
INCOMPATIBILITY: Acids, Sodium/sodium oxides, and potassium
DECOMPOSITION PRODUCTS: With moisture, aluminum oxide, hydrogen fluoride, and hydrofluoric acid.

SECTION 11 TOXICOLOGICAL DATA

RTECS DATA: Administration into the eye (rabbit; Standard Draize test: 500 mg/24H. Oral (mouse); LD50: 103 mg/kg. Subcutaneous (frog); LDLo: 1680 mg/kg. Intraperitoneal (Mammal species unspecified); LD50: 1450 mg/kg. Oral (rabbit); TDLo: 3218 mg/kg/26W-I. LD50 Oral (rat) - >2000 mg/kg. LC50 Inhalation (rat) – 4h > 0.53 mg/l
CARCINOGENIC EFFECTS: No data
MUTAGENIC EFFECTS: No data
TETRATOGENIC EFFECTS: No data

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

TOXICITY TO FISH: LC50-Danio rerio (zebra fish) - > 10 mg/l – 96h (OECD Test Guidline 203)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES: LC50- Daphnia magna (water flea) - > 10 mg/l – 48h
TOXICITY TO ALGAE: LC50 – Chlorella vulgaris (Fresh water algae) – 8.4 mg/l – 3d

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local state and federal regulations.

SECTION 14 TRANSPORTATION DATA

Not a dangerous good

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory
SARA (TITLE 313): Title compound not listed
NEW JERSEY RIGHT TO KNOW COMPONENTS: Aluminum Fluoride
PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Aluminum Fluoride
RHODE ISLAND RIGHT TO KNOW COMPONENTS: Aluminum Fluoride

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Prochem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.
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