

## **MATERIAL SAFETY DATA SHEET**

### **AMMONIUM FLUORIDE**

**Extra Pure**

**MSDS CAS: 12125-01-8**

#### **Section 1: Chemical Product and Company Identification**

##### **Section 1: Chemical Product**

**Product Name:** Ammonium Fluoride

**CAS#:** 12125-01-8

**C.I. No.:** Not applicable.

**Synonym:**

**Chemical Name:** Ammonium fluoride

**Chemical Formula:** NH<sub>4</sub>F

**Brand:** OXFORD

##### **Details Of The Supplier Of The Safety Data Sheet:**

**Company identification:**      **OXFORD LAB FINE CHEM LLP**  
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,  
Navghar, Vasai (East). Palghar - 401 210.  
Mumbai, Maharashtra, INDIA.  
Tel: 91-250-2390989  
Tel/Fax: 91-250-2390032

#### **Section 2: Composition and Information on Ingredients**

##### **Composition:**

Name	CAS #	% by Weight
Ammonium fluoride	12125-01-8	100

**Toxicological Data on Ingredients:** Ammonium fluoride LD50: Not available. LC50: Not available.

## Section 3: Hazards Identification

**Potential Acute Health Effects:** Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of eye contact, skin contact (corrosive). Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:** **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to bones. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Section 4: First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:** Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:** Keep locked up.. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis. May corrode glass. Store in an appropriate container.

**Storage:** Hygroscopic. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** TWA: 2.5 from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Crystals solid. Deliquescent crystals solid.

<b>Odor</b>	: Odorless.
<b>Taste</b>	: Not available.
<b>Molecular Weight</b>	: 37.04 g/mole
<b>Color</b>	: White
<b>pH (1% soln/water)</b>	: Not available.
<b>Boiling Point</b>	: Not available.
<b>Melting Point</b>	: Decomposition temperature: 100°C (212°F)
<b>Flash Point</b>	: Not available.
<b>Critical Temperature</b>	: Not available.
<b>Specific Gravity</b>	: 1.015 (Water = 1)
<b>Vapor Pressure</b>	: Not applicable
<b>Vapor Density</b>	: 1.3 (Air = 1)
<b>Volatility</b>	: Not available.
<b>Odor Threshold</b>	: Not available.
<b>Water/Oil Dist. Coeff.</b>	: Not available
<b>Ionicity (in Water)</b>	: Not available.
<b>Dispersion Properties</b>	: See solubility in water.
<b>Solubility</b>	: Easily soluble in cold water, hot water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, glass

**Incompatibility with various substances:** Reactive with oxidizing agents, metals, acids, alkalis.

**Corrosivity:** Corrosive in presence of glass.

**Special Remarks on Reactivity:** Incompatible with Chlorine Trifluoride, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, glass. Hygroscopic.

**Special Remarks on Corrosivity:** Corrodes glass. May corrode cement.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** LD50: Not available. LC50: Not available.

**Chronic Effects on Humans:** May cause damage to the following organs: bones.

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Acute Potential Health Effects: Skin: Causes skin irritation and burns. May cause deep penetrating ulcers of the skin. Eyes: Causes eye irritation and burns. Inhalation: Extremely destructive to tissue of the mucous membranes and upper respiratory tract. Causes chemical burns to the respiratory tract. Causes delayed lung injury. Acute inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, cyanosis (a bluish discoloration of skin due to deficient oxygenation of blood), and pulmonary edema. Symptoms may include a burning sensation, coughing, choking, tightness in chest, wheezing, shortness of breath, laryngitis. Ingestion: Causes severe digestive tract irritation and burns with nausea, vomiting, abdominal pain, salivation, headache. May cause severe and permanent damage to the digestive tract, and vascular collapse. Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia. Chronic Potential Health Effects: Chronic or prolonged exposure from inhalation or ingestion of fluoride dusts, vapors or mists may cause Fluorosis (chronic fluoride poisoning) and may also affect the blood serum composition. Fluorosis is characterized by weight loss, weakness, anemia, brittle bones, and stiff joints. Other musculoskeletal effects may include teeth discoloration, tendon calcification, and osteosclerosis. Chronic inhalation may also result in perforation of the nasal septum.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

### Land transport (ADR-RID)

**Proper shipping name** : AMMONIUM FLUORIDE

**UN N°** : 2505

**H.I. nr** : 60

**ADR – Class** : 6.1

### Sea transport (IMDG) [English only]

**Proper shipping name** : AMMONIUM FLUORIDE

**UN N°** : 2505

**IMO-IMDG - Class or division:** 6.1: Toxic substances.

**IMO-IMDG - Packing group:** III

### Air transport (ICAO-IATA) [English only]

**Proper shipping name:** AMMONIUM FLUORIDE

**UN N°** : 2505

**IATA - Class or division:** 6.1: Toxic substances.

**IATA - Packing group** : III



## Section 15: Other Regulatory Information

**Federal and State Regulations:** Connecticut hazardous material survey.: Ammonium fluoride Illinois chemical safety act: Ammonium fluoride New York acutely hazardous substances: Ammonium fluoride Rhode Island RTK hazardous substances: Ammonium fluoride Pennsylvania RTK: Ammonium fluoride Massachusetts RTK: Ammonium fluoride Massachusetts spill list: Ammonium fluoride New Jersey: Ammonium fluoride New Jersey spill list: Ammonium fluoride Louisiana spill reporting: Ammonium fluoride California Director's List of Hazardous Substances: Ammonium fluoride TSCA 8(b) inventory: Ammonium fluoride CERCLA: Hazardous substances.: Ammonium fluoride: 100 lbs. (45.36 kg)

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

### Other Classifications:

**WHMIS (Canada):** CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC):**

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16 - Additional Information

**References:** Not available.

**Other Special Considerations:** Not available.

### ***Disclaimer:***

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