

## SAFETY DATA SHEET

Preparation Date: 07/13/2015

Revision Date: 07/13/2015

Revision Number: G1

**Product identifier**

**Product code:** A1185  
**Product Name:** AMMONIUM FLUORIDE, CRYSTAL, REAGENT, ACS

**Other means of identification**

**Synonyms:** Ammonium fluorure [French]  
 Fluorek amonowy [Polish]  
 Fluorure d'ammonium [French]  
 Fluoruro amonico [Spanish]  
 Neutral ammonium fluoride

**CAS #:** 12125-01-8  
**RTECS #** BQ6300000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Textile printing. Wood preservation. Dyeing textiles. Glass etching. Mothproofing.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 2
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

**Label elements**

## Danger

### Hazard statements

Fatal if swallowed  
Harmful in contact with skin  
Harmful if inhaled  
Causes serious eye irritation  
Causes skin irritation  
May cause respiratory irritation



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection

### Precautionary Statements - Response

*Specific treatment (see .? on this label)*

*Specific measures (see .? on this label)*

*Specific treatment (see .? on this label)*

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor/physician if you feel unwell

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

### Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Ammonium Fluoride 12125-01-8	12125-01-8	100	*

### 4. FIRST AID MEASURES

#### First aid measures

##### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

##### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

##### **Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention.

##### **Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

##### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

#### Most important symptoms and effects, both acute and delayed

##### **Symptoms**

Fatal if swallowed. Causes skin irritation. Causes serious eye irritation. May cause irritation of respiratory tract. Severe over-exposure can result in death.

#### Indication of any immediate medical attention and special treatment needed

##### **Notes to Physician:**

Treat symptomatically

#### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

##### **Suitable Extinguishing Media:**

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

##### **Unsuitable Extinguishing Media:**

No information available.

#### Specific hazards arising from the chemical

##### **Hazardous Combustion Products:**

No information available.

##### **Specific hazards:**

Fire may produce irritating and/or toxic gases

#### Special Protective Actions for Firefighters

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**Specific Methods:** No information available.

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Avoid breathing dust. Avoid dust formation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe vapours/dust. Do not ingest. Do not smoke. Protect from moisture. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Hygroscopic. Do not store above 25°C/77°F. Keep container tightly closed in a dry and well-ventilated place. Store away from incompatible materials.

#### **Incompatible Materials:**

Strong acids. Strong bases. Strong oxidizing agents. Amines. Chlorine trifluoride. Quinine salts. Calcium salts. Glass. Metals. Water.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ammonium Fluoride 12125-01-8	None	None	None	None

## Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ammonium Fluoride 12125-01-8	None	None	None	None

## Australia and Mexico

Components	Australia	Mexico
Ammonium Fluoride 12125-01-8	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** 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.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Safety glasses with side-shields
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystals.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 37.04
<b>Formula:</b> NH <sub>4</sub> F	<b>Flammability:</b> Non-flammable	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> No information available.	<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> Acidic
<b>Melting point/range(°C/°F):</b> 100°C/ 212°F	<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Bulk density:</b> No information available	<b>Specific gravity:</b> 1.015	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Density (g/cm<sup>3</sup>):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 1.3
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> -4.37
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Easily soluble in cold water Easily soluble in hot water Solubility in water: 83.5 g/100g at 25°C Solubility of water: 82.780 lb/100 lb @ 70°F

## 10. STABILITY AND REACTIVITY

### Reactivity

Hygroscopic. It absorbs moisture from the air  
Reactive with strong oxidizing agents, strong bases, strong acids, chlorine trifluoride, metals, glass, quinine salts  
Reacts with acids to produce hydrogen fluoride.  
Reacts with alkalis and calcium salts to produce ammonia gas  
Reactive with caustics (e.g. ammonia, ammonia hydroxide, calcium hydroxide, potassium hydroxide)

### Chemical stability

**Stability:** Hygroscopic. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Incompatible materials. Exposure to moisture.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizing agents. Amines. Chlorine trifluoride. Quinine salts. Calcium salts. Glass. Metals. Water.

**Hazardous decomposition products:** Hydrogen fluoride. Ammonia.

### Other Information

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**Corrosivity:** Corrosive in presence of glass

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

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**

Skin. Eyes. Inhalation. Ingestion.

### Acute Toxicity

### Component Information

*Ammonium Fluoride - 12125-01-8*

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rat** = No information available  
**LD50/dermal/rabbit** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 31 mg/kg intrap. LD50 Rat

### Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**  
**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

### Symptoms

**Skin Contact:** Causes skin irritation and possibly burns particularly if the skin is moist or wet. May cause deep penetrating ulcers of the skin.

**Eye Contact:** Causes serious eye irritation. Causes eye burns.

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**Inhalation** Inhalation of dust may cause respiratory tract irritation. May be destructive to tissue of the mucous membranes and upper respiratory tract. May cause chemical burns to the respiratory tract. May cause 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** Fatal if swallowed. Causes severe digestive tract irritation and possibly burns with hemorrhagic gastroenteritis, nausea, vomiting, abdominal pain, salivation, salty or soapy taste in the mouth, dehydration and thirst, loss of appetite, muscle weakness. It may affect behavior/central nervous system (central nervous system depression, headache, excitability, tremors, convulsions, lethargy, coma). May cause congestion, and edema in various organs, severe and permanent damage to the digestive tract, and circulatory failure, shock, respiratory arrest, and vascular collapse. Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia, hypomagnesemia, metabolic and/or respiratory acidosis, and sometimes hyperkalemia..

**Aspiration hazard** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** 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 and red blood cell count. Fluorosis is characterized by weight loss, weakness, anemia, brittle bones, and stiff joints. Other musculoskeletal effects may include teeth discoloration/mottled enamel, tendon calcification, and osteosclerosis.. Chronic inhalation may also result in perforation of the nasal septum..

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ammonium Fluoride	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** Bones.



## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Ecotoxicity effects:

*Ammonium Fluoride - 12125-01-8*

**Freshwater Fish Species Data:** 364.0 mg/L LC50 Pimephales promelas 96 h static 1

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** No information available

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

#### Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

#### Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Fluoride	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:**  
**Packing Group:** III  
**ERG No:** 154  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

**Symbol(s):** R3

### TDG (Canada)

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### ADR

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## 14. TRANSPORT INFORMATION

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### IATA

**UN-No:** UN2505  
**Proper Shipping Name:** Ammonium fluoride  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 6L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ammonium Fluoride</i>	Present	Present KE-01665	Present	Present (1)-311	Present	Present	Present 235-185-9

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## U.S. Regulations

### Ammonium Fluoride

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 0099

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

New York Release Reporting - List of Hazardous Substances:

= 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

#### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

#### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Fluoride	Not Listed	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Ammonium Fluoride	= 100 lb final RQ = 45.4 kg final RQ	None	None	None	None

## U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Fluoride	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

D1B Toxic materials

D2A Very toxic materials

### Ammonium Fluoride

D1B D2A

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

## Inventory

Components	Canada (DSL)	Canada (NDSL)
Ammonium Fluoride	Present	Not Listed

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Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Fluoride	Not listed	Not listed

#### EU Classification

##### **R-phrase(s)**

not determined (not applicable)

R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.

##### **S -phrase(s)**

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Components	Classification	Concentration Limits:	Safety Phrases
Ammonium Fluoride	T; R23/24/25	No information	S1/2 S26 S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

##### Indication of danger:

T - Toxic



## 16. OTHER INFORMATION

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**Preparation Date:** 07/13/2015  
**Revision Date:** 07/13/2015  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**