

Printing date 07/31/2016

Reviewed on 07/31/2016

## 1 Identification

- **Product name**
- **Trade name:** Ammonium fluoride, 98+% (ACS)
- **Item number:** 93-0212
- **CAS Number:**  
12125-01-8
- **EC number:**  
235-185-9
- **Index number:**  
009-006-00-8
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Strem Chemicals, Inc.  
7 Mulliken Way  
NEWBURYPORT, MA 01950  
USA  
info@strem.com
- **Information department:** Technical Department
- **Emergency telephone number:**  
EMERGENCY: CHEMTREC: + 1 (800) 424-9300  
During normal opening times: +1 (978) 499-1600

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

- Acute Tox. 3 H301 Toxic if swallowed.
- Acute Tox. 3 H311 Toxic in contact with skin.
- Acute Tox. 3 H331 Toxic if inhaled.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06

- **Signal word** Danger

- **Hazard-determining components of labeling:**

ammonium fluoride

- **Hazard statements**

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

- **Precautionary statements**

- P231 Handle under inert gas.
- P222 Do not allow contact with air.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

(Contd. on page 2)

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 1)

P305+P351+P338 *If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*

P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

12125-01-8 ammonium fluoride

· **Identification number(s)**

· **EC number:** 235-185-9

· **Index number:** 009-006-00-8

### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

*Immediately remove any clothing soiled by the product.*

*Remove breathing apparatus only after contaminated clothing have been completely removed.*

*In case of irregular breathing or respiratory arrest provide artificial respiration.*

· **After inhalation:**

*Supply fresh air or oxygen; call for doctor.*

*In case of unconsciousness place patient stably in side position for transportation.*

· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*

· **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

· **After swallowing:** *Do not induce vomiting; immediately call for medical help.*

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

· **Indication of any immediate medical attention and special treatment needed**

*No further relevant information available.*

US

(Contd. on page 3)

**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 2)

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**12125-01-8 ammonium fluoride**

PEL	Long-term value: 2.5 mg/m <sup>3</sup> as F
-----	--

(Contd. on page 4)

**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 3)

REL Long-term value: 2.5 mg/m<sup>3</sup>  
as F

TLV Long-term value: 2.5 mg/m<sup>3</sup>  
as F, BEI

**· Ingredients with biological limit values:**

**12125-01-8 ammonium fluoride**

BEI 2 mg/L  
Medium: urine  
Time: prior to shift  
Parameter: Fluoride (background, nonspecific)

3 mg/L  
Medium: urine  
Time: end of shift  
Parameter: Fluoride (background, nonspecific)

**· Additional information:** The lists that were valid during the creation were used as basis.

**· Exposure controls**

**· Personal protective equipment:**

**· General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

**· Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**· Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**· Eye protection:** Safety glasses

**9 Physical and chemical properties**

**· Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

**Form:** Crystalline

(Contd. on page 5)

**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 4)

<b>Color:</b>	White
<b>· Odor:</b>	Ammonia-like
<b>· Odor threshold:</b>	Not determined.
<b>· pH-value:</b>	Not applicable.
<b>· Change in condition</b>	
<b>Melting point/Melting range:</b>	subl °C
<b>Boiling point/Boiling range:</b>	no data °C
<b>· Flash point:</b>	Not applicable.
<b>· Flammability (solid, gaseous):</b>	Not determined.
<b>· Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
<b>· Auto igniting:</b>	Not determined.
<b>· Danger of explosion:</b>	Product does not present an explosion hazard.
<b>· Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>· Vapor pressure:</b>	no data hPa
<b>· Density at 20 °C (68 °F):</b>	1.009 g/cm <sup>3</sup> (8.42 lbs/gal)
<b>· Bulk density at 20 °C (68 °F):</b>	260 kg/m <sup>3</sup>
<b>· Relative density</b>	Not determined.
<b>· Vapor density</b>	Not applicable.
<b>· Evaporation rate</b>	Not applicable.
<b>· Solubility in / Miscibility with</b>	
<b>Water at 20 °C (68 °F):</b>	820 g/l
<b>· Partition coefficient (n-octanol/water):</b>	Not determined.
<b>· Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>· Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>VOC content:</b>	0.0 g/l / 0.00 lb/gl
<b>Solids content:</b>	100.0 %
<b>· Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.

(Contd. on page 6)

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

12125-01-8	ammonium fluoride	3
------------	-------------------	---

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN2505

(Contd. on page 7)

**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 6)

· **UN proper shipping name**  
· **DOT, IATA** Ammonium fluoride  
· **IMDG** AMMONIUM FLUORIDE

· **Transport hazard class(es)**  
· **DOT**



· **Class** 6.1 Toxic substances  
· **Label** 6.1

· **IMDG, IATA**



· **Class** 6.1 Toxic substances  
· **Label** 6.1

· **Packing group**  
· **DOT, IMDG, IATA** III

· **Environmental hazards:**  
· **Marine pollutant:** No

· **Special precautions for user** Not applicable.  
· **Danger code (Kemler):** 60  
· **Segregation groups** Ammonium compounds  
· **Stowage Category** A  
· **Segregation Code** SG35 Stow "separated from" acids.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
· **Quantity limitations** On passenger aircraft/rail: 100 kg  
On cargo aircraft only: 200 kg

· **IMDG**  
· **Limited quantities (LQ)** 5 kg  
· **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 g  
Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":** UN 2505 AMMONIUM FLUORIDE, 6.1, III

(Contd. on page 8)

**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 7)

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

12125-01-8 ammonium fluoride

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS06

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

ammonium fluoride

· **Hazard statements**

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

· **Precautionary statements**

P231 Handle under inert gas.

P222 Do not allow contact with air.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 9)



**Safety Data Sheet**  
according to OSHA HCS

Printing date 07/31/2016

Reviewed on 07/31/2016

**Trade name: Ammonium fluoride, 98+% (ACS)**

(Contd. of page 8)

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Technical Department.

· **Contact:** Technical Director

· **Date of preparation / last revision** 07/31/2016 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 3: Acute toxicity, Hazard Category 3