

Product Name	Ammonium bifluoride
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:

Product Description: Ammonium bifluoride

Synonyms: Ammonium hydrogen difluoride

CAS-No: 1341-49-7

EC-No.: 215-676-4

Molecular Formula: NH₅F₂

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Recommended Use: Laboratory chemicals, Manufacture of substances

1.3. Details of the supplier of the safety data sheet:

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad-382110, Gujarat, India.
Web: www.finarchemicals.com
- **E-Mail Address** safety.finar@actylis.com; info.finar@actylis.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 3), H301

Skin corrosion (Sub-category 1B), H314

Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labeling according to Regulation (EC) No 1272/2008

Pictogram



Signal word: Danger

Hazard statement(s)

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P260 Do not breathe dusts or mists.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.

Supplemental Hazard Statements: None

2.3. Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances:** Ammonium bifluoride

3.2. **Mixtures:**

Component	CAS-No	EC-No.	Weight %
Ammonium bifluoride	1341-49-7	215-676-4	>95

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

- **General advice**

First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

Immediate medical attention is required.

- **If inhaled**

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give 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.

- **If Contact with skin**

Wash off immediately with plenty of water for at least 15 minutes.

Immediate medical attention is required.

- **In case of eye contact**

Rinse immediately with plenty of water at least 15 minutes. Remove contact lenses.

Immediate medical attention is required.

- **If swallowed**

Give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

4.2. **Most important symptoms and effects, both acute and delayed:**

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue. and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

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The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed:

Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Dry chemical, dry sand, alcohol-resistant foam and carbon dioxide.

Unsuitable extinguishing media- For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Not combustible.

Fire may cause evolution of: Ammonia, Hydrogen fluoride, nitrogen oxides.

Ambient fire may liberate hazardous vapours.

The product causes burns of eyes, skin and mucous membranes.

5.3. Advice for firefighters:

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus.

Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Suppress (knock down) gases/Vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance.

Do not breathe (dust, vapor, mist, gas). Avoid dust formation.

7.2. Conditions for safe storage, including any incompatibilities:**Storage conditions**

Keep containers tightly closed in a dry and well-ventilated place. Protect from moisture. Corrosives area. Store under an inert atmosphere. Incompatible Materials. Strong acids. Strong bases.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Ingredients with workplace control parameters

8.2. Exposure Controls:**Appropriate Engineering Controls:**

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Eye & Face Protection-**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety Goggles

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- **Hand Protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact: -

Glove material : Nitrile rubber
Glove thickness : 0.11 mm
Break through time: >480 min
Material tested : KCL 741 Dermatril® L

Splash contact: -

Glove material : Nitrile rubber
Glove thickness : 0.11 mm
Break through time: >480 min
Material tested : KCL 741 Dermatril® L

- **Other Protective equipment**

Protective Clothing.

- **Respiratory Protection**

Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

- **Environmental Exposure Controls**

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** White
- **Physical State:** Solid
- **Odor:** Pungent
- **Odor Threshold:** No data available
- **pH:** 3.5 in 5% aq. solution
- **Melting Point:** 125 °C / 257 °F
- **Critical Temperature:** No data available
- **Vapor Pressure:** 1 hPa @ 20 °C

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- **Vapor Density:** No data available
- **Specific Gravity:** 1.5 (Water = 1)
- **Auto-Ignition Temperature:** No data available
- **Ignition Temperature:** No data available
- **Decomposition Temperature:** > 230°C
- **Volatility:** No data available
- **Viscosity, dynamic:** Not applicable
- **Viscosity, Kinematic:** Not applicable
- **Partition coefficient; n-octanol/water:** No data available
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** No data available
- **Upper Explosion Limit:** No data available
- **Boiling Point/Range:** 230 °C / 446 °F @ 760 mmHg
- **Flash Point:** Not applicable
- **Density:** 1.500 g/cm³
- **Water Solubility:** Soluble in water

9.2. Other information:

- **Molecular Formula:** NH₅F₂
- **Molecular Weight:** 57.04 g/mol

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

No data available

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions:

Violent reactions possible with: Generates dangerous gases or fumes in contact with: acids

Release of: Hydrogen fluoride, alkalines Release of: Ammonia

Risk of explosion with: halogen-halogen compounds

10.4. Conditions to avoid:

Avoid dust formation. Incompatible products. Excess heat. Exposure to moisture. Exposure to moist air or water.

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10.5. Incompatible materials:

Strong acids, Strong bases, Aluminum, Iron, glass, Metals, quartzes/silicate ceramics, Zinc

10.6. Hazardous decomposition products:

Hydrogen fluoride, Ammonia

In the event of fire: see section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:**Acute toxicity**

LD50 = 130 mg/kg (Rat)

Inhalation: No data available

Dermal: No data available

Skin irritation

No data available

Eye irritation

No data available

Sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

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11.2 Further Information:

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

No data available

12.2 Persistence and degradability:

Soluble in water Persistence is unlikely based on information available

12.3 Bioaccumulate potential:

No data available

12.4 Mobility in soil:

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects:

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods:**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste.

Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

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SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	UN 1727		
14.2 Proper shipping name	AMMONIUM HYDROGENDIFLUORIDE, SOLID		
14.3 Class	8		
14.4 Packing group	II		
14.5 Environmentally hazardous	No		
14.6 Special precautions for user	Tunnel restriction code: (E)		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Relevant		

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment:

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Toxic if swallowed.

H319 Causes severe skin burns and eye damage.

Training advice

Provide adequate information, instruction and training for operators.

References: Not available

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