SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
Product name: Ammonium Bifluoride
CAS-No.: 1341-49-7

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company: Central Drug House (P) Ltd
7/28 Vardaan House
Ansari Road Daryaganj
New Delhi-110002
INDIA
Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

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 (Category 1B), H314
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according 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 dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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

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.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: Etching powder
Formula: NH₄F.HF
Molecular weight: 57.04 g/mol
CAS-No.: 1341-49-7
EC-No.: 215-676-4
Index-No.: 009-009-00-4

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium bifluoride</td>
<td>Acute Tox. 3; Skin Corr. 1B;</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1341-49-7</td>
<td>EC-No.</td>
</tr>
<tr>
<td>215-676-4</td>
<td>H301, H314</td>
<td>Index-No.</td>
</tr>
<tr>
<td>009-009-00-4</td>
<td>Concentration limits:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 1 %: Skin Corr. 1B, H314;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.1 - &lt; 1 %: Skin Irrit. 2, H315;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.1 - &lt; 1 %: Eye Irrit. 2, H319;</td>
<td></td>
</tr>
</tbody>
</table>

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
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Nitrogen oxides (NOx), Hydrogen fluoride

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

hygroscopic Store under inert gas.
Storage class (TRGS 510): 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

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
**Personal protective equipment**

**Eye/face protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>9.1 Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
</tr>
<tr>
<td>b) Odour</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
</tr>
<tr>
<td>d) pH</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
</tr>
<tr>
<td>g) Flash point</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
</tr>
<tr>
<td>k) Vapour pressure</td>
</tr>
<tr>
<td>l) Vapour density</td>
</tr>
<tr>
<td>m) Relative density</td>
</tr>
<tr>
<td>n) Water solubility</td>
</tr>
<tr>
<td>o) Partition coefficient: n-octanol/water</td>
</tr>
<tr>
<td>p) Auto-ignition temperature</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
</tr>
<tr>
<td>r) Viscosity</td>
</tr>
<tr>
<td>s) Explosive properties</td>
</tr>
<tr>
<td>Form: crystalline</td>
</tr>
<tr>
<td>No data available</td>
</tr>
<tr>
<td>No data available</td>
</tr>
<tr>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/range: 125 °C - lit.</td>
</tr>
<tr>
<td>No data available</td>
</tr>
<tr>
<td>Flash point Not applicable</td>
</tr>
<tr>
<td>No data available</td>
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<td>No data available</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>1.500 g/cm3</td>
</tr>
<tr>
<td>soluble</td>
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<tr>
<td>No data available</td>
</tr>
<tr>
<td>1.500 g/cm3</td>
</tr>
</tbody>
</table>
t) Oxidizing properties No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Avoid moisture.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), Hydrogen fluoride
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
No data available (Ammonium bifluoride)

Skin corrosion/irritation
No data available (Ammonium bifluoride)

Serious eye damage/eye irritation
No data available (Ammonium bifluoride)

Respiratory or skin sensitisation
No data available (Ammonium bifluoride)

Germ cell mutagenicity
No data available (Ammonium bifluoride)

Carcinogenicity
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Ammonium bifluoride)

Reproductive toxicity
No data available (Ammonium bifluoride)

Specific target organ toxicity - single exposure
No data available (Ammonium bifluoride)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Ammonium bifluoride)

Additional Information
RTECS: BQ9200000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea (Ammonium bifluoride)

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Ammonium bifluoride)

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. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

**Contaminated packaging**
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1727  
IMDG: 1727  
IATA: 1727

14.2 UN proper shipping name
ADR/RID: AMMONIUM HYDROGENIFLUORIDE, SOLID
IMDG: AMMONIUM HYDROGENIFLUORIDE, SOLID
IATA: Ammonium hydrogendifluoride, solid

14.3 Transport hazard class(es)
ADR/RID: 8  
IMDG: 8  
IATA: 8

14.4 Packaging group
ADR/RID: II  
IMDG: II  
IATA: II

14.5 Environmental hazards
ADR/RID: no  
IMDG Marine pollutant: no  
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet 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.
H319   Causes serious eye irritation.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.