

MATERIAL SAFETY DATA SHEET (SDS/MSDS)

AMMONIUM BIFLUORIDE 98% EXTRA PURE

CAS-No.: 1341-49-7

Product Code: 00186

Molecular Formula: $\text{NH}_4\text{F} \cdot \text{HF}$

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Ammonium Bifluoride 98% Extra Pure
EC-No.	:	215-676-4
CAS No	:	1341-49-7
Synonyms	:	Ammonium Hydrogen Difluoride, Etching powder

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company : Chemnovo Synthesis Pvt Ltd.
N-226 Near Kumbhavali Naka
Tarapur MIDC, Boisar-401 506
Palghar, Maharashtra
Telephone : +91 7400096089
Email: export@chemnovo.in

1.4. Emergency telephone number

Emergency number : + 91 7400096089 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), H301

Category 3

Skin corrosion/irritation, H314

Category 1B

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

T; R25

C; R34

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05



GHS06

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H301 - Toxic if swallowed

H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) :

P280 - Wear protective gloves, protective clothing, eye protection, face protection

P301+P310 - IF SWALLOWED: Immediately call a 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

P310 - Immediately call a doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Ammonium Bifluoride 98% Extra Pure
CAS No : 1341-49-7
EC-No. : 215-676-4

Full text of R- and H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Get medical advice/attention. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

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

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Symptoms/injuries	:	Causes severe skin burns and eye damage.
Symptoms/injuries after ingestion	:	Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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	:	Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighter

Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	:	Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	:	Use personal protective equipment as required.
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers.
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6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid contact with skin and eyes. Do not breathe vapours. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a well-ventilated place. Keep container tightly closed.
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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection	:	protective gloves
Eye protection	:	Chemical goggles or face shield
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	White crystalline.
Odour	:	odourless.
Odour threshold	:	No data available
pH	:	3.5 (5% Solution)
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	125 °C
Freezing point	:	No data available
Boiling point	:	240 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.5 g/cm ³
Solubility	:	Water: 41.5 g/100ml @ 250C
Log Pow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Overheating. Open flame. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Oral: Toxic if swallowed.
Skin corrosion/irritation	:	Causes severe skin burns and eye damage.
pH	:	3.5 (5% Solution)
Serious eye damage/irritation	:	Serious eye damage, category 1, implicit
pH	:	3.5 (5% Solution)
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

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No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to ...
Ecology - waste materials	:	Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / AND

14.1. UN number

UN-No. (ADR)	:	1727
UN-No. (IMDG)	:	1727
UN-No.(IATA)	:	1727
UN-No.(AND)	:	Not regulated
UN-No. (RID)	:	Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	AMMONIUM HYDROGENDIFLUORIDE, SOLID
Proper Shipping Name (IMDG)	:	AMMONIUM HYDROGENDIFLUORIDE, SOLID
Proper Shipping Name (IATA)	:	AMMONIUM HYDROGENDIFLUORIDE, SOLID
Proper Shipping Name (ADN)	:	Not regulated
Proper Shipping Name (RID)	:	Not regulated
Transport document description (ADR):		UN 1727 AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II, (E)
Transport document description (IMDG)		UN 1727 AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II
Transport document description (IATA):		UN 1727 AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II

14.3. Transport hazard class(es)

ADR		
Transport hazard class(es) (ADR)	:	8
Danger labels (ADR)	:	8
	:	



IMDG

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Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

:



IATA

Transport hazard class(es) (IATA) : 8

Hazard labels (IATA) : 8

:



AND

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : Not regulated

Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : C2

Limited quantities (ADR) : 1kg

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P002, IBC08

Special packing provisions (ADR) : B4

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Mixed packing provisions (ADR)	:	Mp10
Portable tank and bulk container instructions (ADR)	:	T3
Portable tank and bulk container special provisions (ADR)	:	Tp33
Tank code (ADR)	:	SGAN, L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Special provisions for carriage – Packages (ADR)	:	V11
Hazard identification number (Kemler No.)	:	80
Orange plates	:	

80

1727

Tunnel restriction code (ADR)	:	E
EAC code	:	2X
– Transport by sea		
Limited quantities (IMDG)	:	1 kg
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P002
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B2, B4
Tank instructions (IMDG)	:	T3
Tank special provisions (IMDG)	:	Tp33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-B
Stowage category (IMDG)	:	A
Stowage and handling (IMDG)	:	SW1,Sw2
Segregation (IMDG)	:	Sg35
MFAG-No	:	154
– Air transport		
PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y844
PCA limited quantity max net quantity (IATA)	:	5kg
PCA packing instructions (IATA)	:	859
PCA max net quantity (IATA)	:	15kg
CAO packing instructions (IATA)	:	863
CAO max net quantity (IATA)	:	50kg
ERG code (IATA)	:	8L

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- Inland waterway transport

Not regulated

- Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

No REACH Annex XVII restrictions

Ammonium Bifluoride 98% Extra Pure is not on the REACH Candidate List

Ammonium Bifluoride 98% Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations**Germany**

AwSV/VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water
(Classification according to VwVwS, Annex 2; WGK No 292)

12th Ordinance Implementing the Federal
Immission Control Act - 12.BImSchV :

Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the
product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
R25	Toxic if swallowed
R34	Causes burns
C	Corrosive
T	Toxic

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. Chemnovo Synthesis Pvt Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.chemnovo.in for additional terms and conditions of sale.

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