

SECTION 1: Identification

1.1. Product identifier

Trade name	: AMMONIUM HYDROGEN DIFLUORIDE
IUPAC name	: ammonium hydrogendifluoride
EC-No.	: 215-676-4
CAS-No.	: 1341-49-7
UN-No. (ADR)	: 1727
Product code	: 101115xxx
Formula	: NH ₄ HF ₂

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

Recommended uses and restrictions	: For laboratory use only
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1.3. Supplier's details

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 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 3	H301
Skin corrosion/irritation, Category 1B	H314
Hazardous to the aquatic environment - Acute Hazard	Not classified
Hazardous to the aquatic environment - Chronic Hazard	Not classified
Full text of H statements	: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



Signal word (GHS-ZA)	: Danger
Hazard statements (GHS-ZA)	: H301 - Toxic if swallowed. H314 - Causes severe skin burns and eye damage.
Precautionary statements (GHS-ZA)	: P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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 POISON CENTER or doctor. P321 - Specific treatment (see supplemental first aid instruction on this label). P330 - Rinse mouth. P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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According to SANS 10234:2019 and SANS 11014:2010

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Toxic if swallowed, Causes severe skin burns and eye damage.

SECTION 3: Composition/information on ingredients

3.1. Substances

IUPAC name : ammonium hydrogendifluoride

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Ammonium bifluoride (Main constituent)	(CAS-No.) 1341-49-7	≥ 95	Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314 Aquatic Acute Not classified Aquatic Chronic Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Call a physician immediately. Do not induce vomiting.

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

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

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 : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

- Hand protection : Protective gloves
- Eye protection : Safety glasses
- Skin and body protection : Wear suitable protective clothing
- Respiratory protection : Dust production: dust mask with filter type P1

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : No data available
- Molecular mass : 57.04 g/mol
- Colour : No data available
- Odour : No data available
- Odour threshold : No data available
- pH : No data available
- pH solution : No data available
- Relative evaporation rate (butylacetate=1) : No data available
- Relative evaporation rate (ether=1) : No data available
- Melting point : 125.6 °C
- Freezing point : Not applicable
- Boiling point : No data available
- Flash point : Not applicable
- Auto-ignition temperature : Not applicable
- Decomposition temperature : No data available
- Flammability (solid, gas) : Non flammable.
- Vapour pressure : 1.08 Pa Temp.: 20 °C
- Vapour pressure at 50 °C : No data available
- Relative vapour density at 20 °C : No data available
- Relative density : No data available
- Relative density of saturated gas/air mixture : No data available
- Density : 1.5 g/cm³ Type: 'density'
- Relative gas density : No data available
- Solubility : No data available

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According to SANS 10234:2019 and SANS 11014:2010

Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: 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	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	130 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Assumed to cause serious eye damage
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

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LC50 fish 1	421.4 mg/l Test organisms (species): no data
NOEC chronic fish	1.2 mg/l Test organisms (species): Oncorhynchus gorbuscha Duration: '61 d'

12.2. Persistence and degradability

AMMONIUM HYDROGEN DIFLUORIDE (1341-49-7)

Persistence and degradability	No additional information available
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According to SANS 10234:2019 and SANS 11014:2010

12.3. Bioaccumulative potential

AMMONIUM HYDROGEN DIFLUORIDE (1341-49-7)

Bioaccumulative potential : No additional information available

12.4. Mobility in soil

AMMONIUM HYDROGEN DIFLUORIDE (1341-49-7)

Mobility in soil : No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1727	1727	1727
14.2. Proper Shipping Name		
AMMONIUM HYDROGEN DIFLUORIDE, SOLID	AMMONIUM HYDROGEN DIFLUORIDE, SOLID	Ammonium hydrogendifluoride, solid
14.3. Transport hazard class(es)		
8	8	8
		 Not applicable
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Limited quantities (SANS) : 1 kg
Limited quantities (SANS) : 1 kg
Packagings, large packagings and IBCs : P002, IBC08
Packing instructions (SANS)
Packagings, large packagings and IBCs Special : B2, B4
packing instructions (SANS)
Portable tank and bulk containers instructions : T3
(SANS)
Portable tank and bulk container special : TP33
provisions (SANS)

- IMDG

Limited quantities (IMDG) : 1 kg
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P002
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B21, B4
Tank instructions (IMDG) : T3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES

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Stowage category (IMDG) : A
Properties and observations (IMDG) : White deliquescent crystals. Decomposed by heat or acids, evolving hydrogen fluoride, a toxic, extremely irritating and corrosive gas, apparent as white fumes. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes burns to skin and mucous membranes.

- IATA

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

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 national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 07/07/2020
Revision date : 07/07/2025

Full text of H-statements:

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.