

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

SECTION 1. IDENTIFICATION

Product name : AMMONIUM BIFLUORIDE

Synonyms : Ammonium Hydrogen Fluoride; Ammonium Difluoride; Acid Ammonium Fluoride

Recommended use of the chemical and restrictions on use

Recommended use : industrial chemical

Restricted Uses : No data available

Manufacturer or supplier's details

Company : Univar Solutions Canada Ltd.
Address : 64 Arrow Road
 North York, ON, M9M 2L9
 Canada

Emergency telephone number:

Local Emergency Contact : During Office hours Monday-Friday, 8.00 am - 4.30 pm (Pacific Standard Time) : 1-866-686-4827

Additional Information: : Responsible Party: Product Compliance Department
 E-mail: SDSNA@univarsolutions.com
 SDS Requests: 1-855-429-2661
 Website: www.univarsolutions.com

SECTION 2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Acute toxicity (Oral) : Category 3

Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Specific target organ toxicity - repeated exposure : Category 2

Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H301 Toxic if swallowed.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or re-

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

peated exposure.

Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
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.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P314 Get medical advice/ attention if you feel unwell.
P363 Wash contaminated clothing before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

CAS-No.	Chemical name	% by Weight	Synonyms
1341-49-7	Ammonium hydrogendifluoride	80 - 100	Ammonium hydrogendifluoride
12125-01-8	Ammonium fluoride ((NH ₄)F)	5 - 10	Ammonium fluoride ((NH ₄)F)

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST-AID MEASURES

General advice : Move out of dangerous area.

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

	Consult a physician. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Take victim immediately to hospital. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital. Do not induce vomiting without medical advice.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Dry chemical Carbon dioxide (CO ₂) Alcohol-resistant foam
Unsuitable extinguishing media	: High volume water jet
Specific hazards during fire-fighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: No hazardous combustion products are known
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency measures	: Use personal protective equipment. Avoid dust formation.
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Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

- agency procedures : Avoid breathing dust.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Prevent unauthorized access.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1341-49-7	Ammonium hydrogendifluoride	TWA	2.5 mg/m ³ (Fluorine)	CA AB OEL
		TWAEV	2.5 mg/m ³ (Fluorine)	CA QC OEL
		TWA	2.5 mg/m ³ (Fluorine)	CA BC OEL

Personal protective equipment

Hand protection

- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

Skin and body protection	: problems. Dust impervious protective suit Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: solid
Colour	: white
Odour	: pungent
Odour Threshold	: No data available
pH	: 3.5 @ 5 %
Freezing Point (Melting point/range)	: 126 °C (259 °F)
Boiling Point (Boiling point/boiling range)	: 239.5 °C (463.1 °F)
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: 1.51 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	: No data available
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	: glass

Safety Data Sheet**AMMONIUM BIFLUORIDE**

Version 1.3

Revision Date: 11/05/2022

Metals
Silica
Strong acids
Strong bases

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate: 128.08 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: > 10 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Components:**1341-49-7:**

Acute oral toxicity : LD50 (Rat): 130 mg/kg
Assessment: The component/mixture is toxic after single ingestion.

12125-01-8:

Acute oral toxicity : LD 50 (Rat): 223 mg/kg
Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): 1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : Remarks: Acutely Toxic Category 3

Acute toxicity estimate: 300 mg/kg

LD 50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Components:****1341-49-7:**

Species: Rabbit
Result: Causes burns.

12125-01-8:

Species: Rabbit
Result: No skin irritation

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

Serious eye damage/eye irritation

Components:

12125-01-8:

Species: Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Components:

12125-01-8:

Remarks: No data available

Remarks: No data available

Test Type: Maximization test

Exposure routes: Dermal

Species: Guinea pig

Result: Does not cause skin sensitisation.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

STOT - single exposure

Product:

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Product:

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Components:

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

12125-01-8:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

TDG (Transportation of Dangerous Goods):

UN1727, AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II

IATA (International Air Transport Association):

UN1727, AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II

IMDG (International Maritime Dangerous Goods):

UN1727, AMMONIUM HYDROGENDIFLUORIDE, SOLID, 8, II

SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions EHS Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 11/05/2022

Material number:
16185578, 16175215

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act

Safety Data Sheet

AMMONIUM BIFLUORIDE

Version 1.3

Revision Date: 11/05/2022

>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50			Lethal Concentration 50%