

## Safety Data Sheet AMMONIUM BIFLUORIDE

SDS no. QSX6F49Y • Version 1.0 • Date of issue: 2024-12-18

### SECTION 1: Identification

#### GHS Product identifier

Product name AMMONIUM BIFLUORIDE

#### Other means of identification

Product Product Code

AMMONIUM BIFLUORIDE TG AT082

AMMONIUM BIFLUORIDE LR AL082

Ammonium hydrogen difluoride, Ammonium acid fluoride, Acid ammonium fluoride

#### Recommended use of the chemical and restrictions on use

Ceramics, etching glass (white acid), sterilizer for brewery, dairy and other equipment, electroplating, processing of beryllium, laundry scour and laboratory reagent.

#### Supplier's details

Name ChemSupply Australia Pty Ltd  
Address 38-50 Bedford Street  
5013 Gillman South Australia  
Australia

Telephone 08 8440 2000  
email [www.chemsupply.com.au](http://www.chemsupply.com.au)

#### Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

### SECTION 2: Hazard identification

#### General hazard statement

Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:

Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.

#### Classification of the substance or mixture

#### GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 3
- Skin corrosion/irritation, Cat. 1B

GHS label elements, including precautionary statements

Pictograms



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/vapors/spray.

P264

Wash hands 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/doctor/phycsian

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 [or 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/doctor/phycsian

P363

Wash contaminated clothing before reuse.

P405

Store locked up.

P501

Dispose of contents/container to an approved waste disposal facility

### SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 57.04

Components

Component	CAS no.	Concentration
Ammonium bifluoride (EC no.: 215-676-4; Index no.: 009-009-00-4)	1341-49-7	<= 100 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 3; Skin corrosion/irritation, Cat. 1B. HAZARDS: H301 - Toxic if swallowed; H314 - Causes severe skin burns and eye damage. [SCLs/M-factors/ATEs]: *; Skin Corr. 1B; H314: C ≥ 1 %; Skin Irrit. 2; H315: 0,1 % ≤ C < 1 %; Eye Irrit. 2; H319: 0,1 % ≤ C < 1 %		

### SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).

If inhaled

If inhaled, remove from contaminated area to fresh air immediately. If breathing is difficult, give oxygen.  
Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth

resuscitation. Immediately medical attention is required.

In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

**Most important symptoms/effects, 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 immediate medical attention and special treatment needed, if necessary**

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

---

## SECTION 5: Fire-fighting measures

**Suitable extinguishing media**

Small fire: Use dry chemical, CO<sub>2</sub> or water spray. If safe to do so, move undamaged containers from fire area.

Large fire: Use dry chemical, CO<sub>2</sub>, foam or water spray - Do not use water jets.

Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.

**Specific hazards arising from the chemical**

Hazards from Combustion Products: May liberate toxic fumes in fire including of nitrogen oxides and hydrogen fluoride.

Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.

**Special protective actions for fire-fighters**

Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

---

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. Evacuate the area of all non-essential personnel.

Wear protective clothing specified for normal operations (see Section 8)

**Methods and materials for containment and cleaning up**

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Seek expert advice on handling and disposal.

Avoid release to the environment.

---

## SECTION 7: Handling and storage

**Precautions for safe handling**

# Safety Data Sheet

## AMMONIUM BIFLUORIDE

SDS no. QSX6F49Y • Version 1.0 • Date of issue: 2024-12-18

Avoid generation or accumulation of dusts. Wash hands and face thoroughly after working with material.  
Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

Store away from acids. Store away from bases.

Corrosiveness: Corrodes aluminium, glass, other siliceous materials, iron, zinc, and most metals in the presence of moisture.

---

## SECTION 8: Exposure controls/personal protection

### Control parameters

**CAS: 1341-49-7 (EC: 215-676-4)**

Ammonium bifluoride

ACGIH: 2.5 mg/m<sup>3</sup> TLV® inhalation

### Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

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

#### Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

#### Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

#### Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

---

## SECTION 9: Physical and chemical properties

### Basic physical and chemical properties

Physical state

Solid

Appearance

Colourless to white crystals.

Color

No data available.

Odor

Pungent odour.

## Safety Data Sheet

### AMMONIUM BIFLUORIDE

SDS no. QSX6F49Y • Version 1.0 • Date of issue: 2024-12-18

Odor threshold	No data available.
Melting point/freezing point	126 °C
Boiling point or initial boiling point and boiling range	239 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	> 230 °C
Oxidizing properties	No data available.
pH	pH (50 g/L aqueous solution @ 20 °C): 3.5
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble. Solubility in Organic Solvents: Soluble in alcohol.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	1 hPa (20 °C)
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.5
Relative vapor density	No data available.
Particle characteristics	No data available.

#### Supplemental information regarding physical hazard classes

No data available.

#### Further safety characteristics (supplemental)

No data available.

---

## SECTION 10: Stability and reactivity

#### Reactivity

Stable under normal conditions of storage and handling.

#### Chemical stability

Stable. Sensitive to heat, hygroscopic.

#### Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

#### Conditions to avoid

Moisture. Incompatibles.

#### Incompatible materials

Acids (release of hydrogen fluoride), bases (release of ammonia), strong oxidizing agents, glass and silicate ceramics.

#### Hazardous decomposition products

May liberate toxic fumes in fire including of nitrogen oxides and hydrogen fluoride.

---

## SECTION 11: Toxicological information

#### Information on toxicological effects

##### Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 130 mg/kg.

## Safety Data Sheet

### AMMONIUM BIFLUORIDE

SDS no. QSX6F49Y • Version 1.0 • Date of issue: 2024-12-18

**Ingestion:** Toxic if swallowed. Causes burns. May cause severe damage and burns to the mucous membranes, mouth, oesophagus, gastrointestinal tract. Risk of perforation in the oesophagus, stomach. Absorption can lead to spasms, unconsciousness, cardiac dysrhythmia, respiratory arrest, shock, disturbed electrolyte balance.

**Inhalation:** Causes burns. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, spasm, inflammation and edema of the larynx and bronchi, respiratory arrest, chemical pneumonitis, pulmonary edema and death. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract.

#### **Skin corrosion/irritation**

Causes severe burns. Causes tissue damage and poorly healing wounds. Danger of skin absorption.

#### **Serious eye damage/irritation**

Causes severe burns. Risk of serious damage to eyes. Risk of blindness!

#### **Respiratory or skin sensitization**

Not classified based on available information.

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Carcinogenicity**

Not classified based on available information.

#### **Reproductive toxicity**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) - single exposure**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) - repeated exposure**

Not classified based on available information.

#### **Aspiration hazard**

Not classified based on available information.

#### **Additional information**

Chronic Effects: Chronic uptake results in damage of: bone marrow, liver, kidneys.

May lead to respiratory arrest.

The following applies to soluble inorganic fluorides in general: May cause irritations to burns in contact with eyes, skin and mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders and Central Nervous System disorders.

The following applies to ammonium salts in general: After swallowing: Local irritation symptoms, nausea, vomiting, and diarrhoea.

Systemic effect: After the uptake of very large quantities, drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis and haemolysis.

---

## SECTION 12: Ecological information

#### **Toxicity**

Biologic degradation: Methods for the determination of biodegradability are not applicable to inorganic substances.

#### **Bioaccumulative potential**

Unlikely.

---

## SECTION 13: Disposal considerations

**Disposal methods**

**Product disposal**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

**Sewage disposal**

Unlikely.

**Other disposal recommendations**

Do not discharge this material into waterways, drains and sewers.

---

**SECTION 14: Transport information**

**ADG (Road and Rail)**

UN Number: 1727

Class: 8

Packing Group: II

Proper Shipping Name: AMMONIUM HYDROGEN DIFLUORIDE, SOLID

**Hazchem emergency action code (EAC)**

2X

**IMDG**

UN Number: 1727

Class: 8

Packing Group: II

EMS Number:

Proper Shipping Name: AMMONIUM HYDROGEN DIFLUORIDE, SOLID

**IATA**

UN Number: 1727

Class: 8

Packing Group: II

Proper Shipping Name: AMMONIUM HYDROGEN DIFLUORIDE, SOLID

---

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**Australia SUSMP**

Poison Schedule: S7

---

**SECTION 16: Other information**

**Further information/disclaimer**

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

**Preparation information**

## Safety Data Sheet

### AMMONIUM BIFLUORIDE

SDS no. QSX6F49Y • Version 1.0 • Date of issue: 2024-12-18

All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), [hcis.safeworkaustralia.gov.au](https://hcis.safeworkaustralia.gov.au)

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)