

Safety Data Sheet **AMMONIUM FLUORIDE**

SDS no. LONK1FLL • Version 1.0 • Date of issue: 2023-11-29

SECTION 1: Identification

GHS Product identifier

Product name AMMONIUM FLUORIDE

Other means of identification

AMMONIUM FLUORIDE AR AA123
Fluoroammonium

Recommended use of the chemical and restrictions on use

Fluorides, analytical chemistry, laboratory reagent, digestion of silicates, antiseptic in brewing, etching glass, textile mordant, wood preservative and mothproofing.

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

Emergency phone number

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

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Dangerous Goods of Class 6 (Toxic and Infectious Substances) are incompatible in a placard load with any of the following:
Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids; 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

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- Acute toxicity, dermal, Cat. 3
- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, oral, Cat. 3
- Skin corrosion/irritation, Cat. 1A
- Specific target organ toxicity following repeated exposure, Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H372	Causes damage to organs through prolonged or repeated exposure

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.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
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/physician
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 37.04

Components

Component	CAS no.	Concentration
Ammonium fluoride (EC no.: 235-185-9; Index no.: 009-006-00-8)	12125-01-8	<= 100 % (weight)

CLASSIFICATIONS: Acute toxicity, inhalation, Cat. 3; Acute toxicity, dermal, Cat. 3; Acute toxicity, oral, Cat. 3; Skin corrosion/irritation, Cat. 1A; Specific target organ

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toxicity following repeated exposure, Cat. 1. HAZARDS: H301 - Toxic if swallowed; H311 - Toxic in contact with skin; H314 - Causes severe skin burns and eye damage; H331 - Toxic if inhaled; H372 - Causes damage to organs [organs] through prolonged or repeated exposure [route].

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
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 in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Specific hazards arising from the chemical

Ammonia and hydrogen fluoride gases are formed and emitted in fires.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid raising a dust cloud. Use in ventilated areas or in fumehood. Avoid contact with skin, eyes, nose, mouth.
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.
Evacuate unprotected personnel from danger area.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid generation or accumulation of dusts.

Conditions for safe storage, including any incompatibilities

Store away from oxidizing agents. Keep containers closed at all times. Store in a cool, dry, well-ventilated area, out of direct sunlight. Store in plastic containers. Hygroscopic. Keep away from strong acids and strong bases.

Do not store in glass containers.

Corrodes glass and metal (aluminium and steel) in high temperatures.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 12125-01-8 (EC: 235-185-9)

Ammonium fluoride

AU/SWA (Australia): 2.5 mg/m³

Appropriate engineering controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

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

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Wear suitable protective clothing and gloves to prevent skin contact. 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
Appearance
Color
Odor

Solid
White crystals.
No data available.
Odourless.

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Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
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	100 °C
Oxidizing properties	No data available.
pH	~6 (50 g/l, H ₂ O, 20 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble in water (820 g/L @ 20 °C) Solubility in Organic Solvents: Slightly soluble in alcohol.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.015
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: Cannot be obtained by evaporating its aqueous solution.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Avoid storing in direct sunlight and avoid extremes of temperature. Incompatible materials

Incompatible materials

Acids, alkali, quinine salts, chloride trifluoride, soluble calcium salts and oxidising agents.

Hazardous decomposition products

Very toxic fumes of ammonia, oxides of nitrogen and hydrogen fluoride.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

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Ingestion: Toxic if swallowed. Will cause corrosive damage to mucous membranes. Fluoride ions can reduce serum calcium levels possibly causing fatal hypocalcemia. Prolonged exposure to fluoride dusts results in perforation of the nasal septum. In general, the absorption of Fluoride ions and Ammonium salts causes local irritation symptoms, nausea, vomiting, diarrhoea, abdominal pain, fever, agitation, muscular weakness, low blood pressure, CNS disorders, spasms, narcotic conditions, respiratory paralysis and haemolysis.

Inhalation: Toxic by inhalation. Dust may be absorbed causing irritation and burns to mucous membrane and respiratory tract. Symptoms include of burning sensation, coughing, choking, laryngitis, wheezing, tightness in chest and shortness of breath. Acute inhalation may result in spasms, inflammation and edema of the larynx and bronchi, chemical pneumonitis, cyanosis and pulmonary edema.

Skin corrosion/irritation

Toxic in contact with skin. Corrosive.

Serious eye damage/irritation

Corrosive will cause corneal burns.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

Specific target organ toxicity - Repeated Exposure: Category 1

Aspiration hazard

No data available.

Additional information

Chronic Effects: Symptoms of overexposure may include nausea, salivation, vomiting, abdominal pain, diarrhoea, muscular weakness, convulsions, shock and death.

Acute overexposure by inhalation may cause coughing, choking, chills lasting 1-2 hours after exposure. Fever, tightness in the chest, cyanosis and lung injury may be delayed 1-2 days.

Chronic exposure may result in fluorosis. Symptoms include weight loss, brittleness of bones, osteosclerosis, anaemia, stiffness in the joints and discolouration of the teeth.

SECTION 12: Ecological information

Toxicity

No data available.

Persistence and degradability

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No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

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.

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 2505

Class: 6.1

Packing Group: III

Proper Shipping Name: AMMONIUM FLUORIDE

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 2505

Class: 6.1

Packing Group: III

EMS Number:

Proper Shipping Name: AMMONIUM FLUORIDE

IATA

UN Number: 2505

Class: 6.1

Packing Group: III

Proper Shipping Name: AMMONIUM FLUORIDE

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S6

Canadian Domestic Substances List (DSL)

Chemical name: Ammonium fluoride ((NH₄)F)

CAS: 12125-01-8

Massachusetts Right To Know Components

Chemical name: Ammonium fluoride

CAS number: 12125-01-8

New Jersey Right To Know Components

Common name: AMMONIUM FLUORIDE

CAS number: 12125-01-8

Pennsylvania Right To Know Components

Chemical name: Ammonium fluoride

CAS number: 12125-01-8

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

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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

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)