



Infosafe No™	1CHAJ	Issue Date : December 2019	RE-ISSUED by CHEMSUPP
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Product Name : **AMMONIUM BIFLUORIDE**

Classified as hazardous

1. Identification

GHS Product Identifier AMMONIUM BIFLUORIDE

Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

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SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000
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Emergency phone number CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

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.

Other Names

<u>Name</u>	<u>Product Code</u>
AMMONIUM BIFLUORIDE TG	AT082
AMMONIUM BIFLUORIDE LR	AL082
Ammonium hydrogen difluoride, Ammonium acid fluoride, Acid ammonium fluoride	

Other Information

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

2. Hazard Identification

GHS classification of the substance/mixture Acute Toxicity - Oral: Category 3
Skin Corrosion/Irritation: Category 1B

Signal Word (s) DANGER

Hazard Statement (s) H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.

Pictogram (s) Corrosion, Skull and crossbones



Precautionary statement – Prevention P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.

Precautionary statement – Storage



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Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.
Other Information	Systemic effects: The following applies to soluble inorganic fluorides in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. After the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

3. Composition/information on ingredients

Chemical Characterization	Solid				
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Ammonium Hydrogen Difluoride	1341-49-7	100 %		

4. First-aid measures

Inhalation	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.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	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.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

5. Fire-fighting measures

Hazards from Combustion Products	May liberate toxic fumes in fire including of nitrogen oxides and hydrogen fluoride.
Specific Methods	Use extinguishing media most appropriate for the surrounding fire. Small fire: Use dry chemical, CO2 or water spray. If safe to do so, move undamaged containers from fire area. Large fire: Use dry chemical, CO2, 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	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.
Hazchem Code	2X
Decomposition Temp.	> 230 °C
Precautions in connection with Fire	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.

6. Accidental release measures

Personal Precautions	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.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.
Clean-up Methods - Large Spillages	Seek expert advice on handling and disposal.
Environmental Precautions	Avoid release to the environment.



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7. Handling and storage

Precautions for Safe Handling 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 Keep containers closed at all times. Store in a cool, dry place. 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.

Storage Regulations Refer Australian Standard AS 3780 - 1994 'The storage and handling of corrosive substances'.

8. Exposure controls/personal protection

Other Exposure Information These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for Fluorides (as F) (Safe Work Australia) of 2.5 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate engineering controls 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.

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.

Eye 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.

Hand Protection Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.

Personal Protective Equipment Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

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.

Hygiene Measures Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form Solid

Appearance Colourless to white crystals.

Odour Pungent odour.

Decomposition Temperature > 230 °C

Melting Point 126 °C

Boiling Point 239 °C

Solubility in Water Soluble.

Solubility in Organic Solvents Soluble in alcohol.



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Specific Gravity	1.5
pH	pH (50 g/L aqueous solution @ 20 °C): 3.5
Vapour Pressure	1 hPa (20 °C)
Flammability	Non combustible material.
Molecular Weight	57.04

10. Stability and reactivity

Chemical Stability	Stable. Sensitive to heat, hygroscopic.
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.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 130 mg/kg.
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	Causes severe burns. Causes tissue damage and poorly healing wounds. Danger of skin absorption.
Eye	Causes severe burns. Risk of serious damage to eyes. Risk of blindness!
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	Not classified based on available information.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	No evidence of carcinogenic properties.
Reproductive Toxicity	Not classified based on available information.
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available 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.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Bioaccumulative Potential	Unlikely.
Biological Properties	Biologic degradation: Methods for the determination of biodegradability are not applicable to inorganic substances.



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13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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14. Transport information

Transport Information	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.
U.N. Number	1727
UN proper shipping name	AMMONIUM HYDROGEN DIFLUORIDE, SOLID
Transport hazard class(es)	8
Hazchem Code	2X
Packaging Method	3.8.8
Packing Group	II
EPG Number	8C2
IERG Number	37

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	S7
Hazard Category	Toxic

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Chemical Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: 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. Chem-Supply 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.
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