



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666


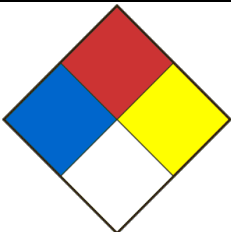
Fax. (Qc): (418) 660-8998

## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier AMMONIUM BIFLUORIDE		Product Use Laboratory use	
Chemical formula (NH <sub>4</sub> )HF <sub>2</sub>		Product code AP-0127 ; AR-0927	Molar weight 57,04
Chemical name / Commercial name / Synonymous DIFLUORURE D'AMMONIUM, AMMONIUM BIFLUORIDE, AMMONIUM HYDROGEN DIFLUORIDE, AMMONIUM HYDROGEN FLUORIDE, ACID AMMONIUM FLUORIDE			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 12/4/2018	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	<p>Acute toxicity - Oral category 3</p> <p>Serious eye damage/eye irritation - Serious eye damage category 1</p> <p>Specific target organ toxicity - Single exposure category 3</p> <p>Skin corrosion/irritation - Skin corrosion category 1B</p> <p>Specific Target Organ Toxicity - Repeated exposure category 2</p>
<b>Signal Word</b>	DANGER
<b>Hazards statements (H)</b>	<p>H301 Toxic if swallowed.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H318 Causes serious eye damage.</p> <p>H335 May cause respiratory irritation.</p> <p>H373 May cause damage to organs through prolonged or repeated exposure.</p>
<b>Precautionary statements (P)</b>	<p>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P264 Wash the areas of the body that have been in contact with the product after handling.</p> <p>P270 Do no eat, drink or smoke when using this product.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</p> <p>P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P330 Rinse mouth.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.</p> <p>P261 Avoid breathing dust / fume / gas / mist / vapours / spray.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P314 Get medical advice/attention if you feel unwell.</p>
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	<p><b>Health</b> 3</p> <p><b>Fire</b> 0</p> <p><b>Reactivity</b> 0</p> <p><b>Special danger</b></p>

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Bifluorure d'ammonium	1341-49-7	<=100

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	If breathing is difficult, give oxygen. If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Ingestion</b>	If the person is conscious, give water to drink. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	Ref. section 11.
<b>Immediate medical attention and special treatment, if necessary</b>	In case of medical consultation, keep this sheet available.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	No
<b>Ignition conditions</b>	Not flammable or combustible.
<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	
<b>Hazardous combustion / decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO <sub>x</sub> ), Gaseous hydrogen fluoride.
<b>Special fire and explosion hazards</b>	In the presence of water or humid air, the ammonium bifluoride is converted into hydrofluoric acid which in contact with certain metals can release hydrogen, a flammable gas. May react violently with incompatible products (ref .Section 10)
<b>Special protective equipment and precautions for firefighters</b>	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

<b>Methods and materials for containment and cleaning up / Personnel precautions, protective equipment</b>	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Pick up with a shovel or broom, taking care not to scatter dust. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. Do not let product enter drains.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Store in a cool, dry place. Keep container tightly closed and store away from heat, moisture, glass and incompatible products. Protect from the sun's rays. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas.
<b>Methods of handling</b>	Bottle in plastic containers only. Always open containers slowly to allow any excess pressure to vent. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust or vapor is formed.

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Ammonium bifluoride	1341-49-7	TWA	2.500000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks				
		TWA	2.500000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	2.500000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
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		TWA	2.500000 mg/m3	Canada. British Columbia OEL
		TWA	2.500000 mg/m3	Canada. British Columbia OEL
	TWA 2.5 mg/m3 Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)			
		TWAEV	2.5 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	2.5 mg/m3	Canada. British Columbia OEL
		TWA	2.500000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	2.500000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	2.5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

<b>Data source</b>	Sigma-Aldrich (Millipore Sigma)
<b>Ventilation</b>	Fan.
<b>Respiratory</b>	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat.
<b>Engineering control</b>	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid.
Appearance	poudre cristalline de couleur blanche-
Odour	Légère odeur d'ammonium.
Odour threshold	Data not available
pH	Donnée non disponible.
Melting point / Freezing point	125°C
Initial boiling point	230°C (dec)
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Vapour density	Data not available
Relative density	1.50g/cm <sup>3</sup>
Solubility	Soluble dans l'eau (600g/L @20°C ) et soluble dans l'alcool.
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	>230°C
Decomposition temperature	Data not available
Viscosity	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Hygroscopic. Avoid moisture.
Incompatible material	Acids, bases, alkaline solutions, glass and moisture.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of ammonia and hydrogen fluoride. Nitrogen oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### AMMONIUM BIFLUORIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposure effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and burning may cause permanent eye damage.
- Skin	Severe irritation and burning.
- Inhalation	Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.
Acute toxicity (Ingestion)	Irritation and burning of the mouth, throat, esophagus and abdominal wall. Dysphagia, kidney damage, abdominal pain, cramps, haemorrhagic diarrhea, headache, dizziness, salivation, nausea and vomiting, muscle weakness, convulsions, vascular collapse, coma and can lead to death.
Chronic exposure effects / symptoms	Burning sensation, lung damage, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, confusion, irritability, tearing, sweating, salivation, fatigue, tremors, convulsions, nausea and vomiting. NOTE: Chronic exposure can also lead to the development of fluorosis, which is characterized by increased bone fragility, joint stiffness, bone decalcification, and calcification of ligaments.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 130 mg/kg. LD50 Dermal: Data not available
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

## SECTION 12 - ECOLOGICAL INFORMATION

Available ecological information	No
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## SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

UN Number	1727
UN Proper shipping name	HYDROGÉNODIFLUORURE D'AMMONIUM SOLIDE
Transport hazard class(es)	8 Corrosive substances
Packing group	II
Limited quantity index	1kg
ERAP Index	-
Special precautions	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Acute toxicity - Oral category 3 Serious eye damage/eye irritation - Serious eye damage category 1 Specific target organ toxicity - Single exposure category 3 Skin corrosion/irritation - Skin corrosion category 1B Specific Target Organ Toxicity - Repeated exposure category 2
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## SECTION 16 - OTHER INFORMATION

### Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Last Update: 12/4/2018