

## Ammonium Bifluoride (solid)

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Ammonium Bifluoride (solid)
<b>Other Means of Identification</b>	Acid ammonium fluoride, Ammonium difluoride, Ammonium hydrofluoride, Ammonium hydrogen bifluoride, Ammonium hydrogen difluoride
<b>Product Code(s)</b>	AM2110
<b>Product Family</b>	Inorganic Solid
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0280

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

#### Classification

Acute toxicity (Oral) - Category 4; Acute toxicity (Inhalation) - Category 1; Serious eye damage - Category 1; Specific target organ toxicity (repeated exposure) - Category 2

#### Label Elements



Signal Word:  
Danger

#### Hazard Statement(s):

Toxic if swallowed.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Causes damage to organs through prolonged or repeated exposure.

#### Precautionary Statement(s):

Wear protective gloves/protective clothing.  
Wash hands and skin thoroughly after handling.  
Do not get in eyes, on skin, or on clothing.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Use only outdoors or in a well-ventilated area.  
Wear eye protection/face protection.  
Use only outdoors or in a well-ventilated area.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

---

Product Identifier: Ammonium Bifluoride (solid)

Date of Preparation: December 21, 2015

Page 01 of 06

IF ON SKIN: Wash with plenty of water/

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Other Hazards**

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Ammonium bifluoride	1341-49-7	>98	Acid ammonium fluoride, Ammonium difluoride

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

**Inhalation**

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

**Skin Contact**

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation or a rash occurs, get medical advice or attention.

**Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

**Ingestion**

Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

**First-aid Comments**

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

**Most Important Symptoms and Effects, Acute and Delayed**

If on skin: may burn the skin. Permanent scarring may result. If in eyes: may cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result.

**Immediate Medical Attention and Special Treatment**

**Special Instructions**

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### SECTION 5. FIRE-FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media**

Not combustible. Use extinguishing agent suitable for surrounding fire.

**Unsuitable Extinguishing Media**

None known.

**Specific Hazards Arising from the Product**

Product Identifier: Ammonium Bifluoride (solid)

Date of Preparation: December 21, 2015

Closed containers may rupture violently when heated releasing contents. Heating increases the release of toxic vapour.

Corrosive hydrogen fluoride.

### Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Oxidizer. Prevent contact with flammable and combustible materials.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Avoid generating dust.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Prevent all skin contact. Wash hands thoroughly after handling this material. Prevent accidental contact with acidic conditions. Prevent accidental contact with alkaline conditions. Avoid generating dusts.

### Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). An approved, fire-resistant area. Restrict access to authorized personnel only. Keep amount in storage to a minimum. Store in the original, labelled, shipping container. Comply with all applicable health and safety regulations, fire and building codes.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ammonium bifluoride	2.5 mg/m <sup>3</sup>		2.5 mg/m <sup>3</sup>			

### Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash in work area, if contact or splash hazard exists.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

#### Respiratory Protection

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

Product Identifier: Ammonium Bifluoride (solid)

Date of Preparation: December 21, 2015

Page 03 of 06

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Colourless white crystals.
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not applicable
<b>pH</b>	3.5 (5% solution)
<b>Melting Point/Freezing Point</b>	126.1 °C (259.0 °F) (melting); Not applicable (freezing)
<b>Initial Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	Will not burn.
<b>Upper/Lower Flammability or Explosive Limit</b>	Not applicable (upper); Not applicable (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	1.50
<b>Solubility</b>	Very soluble in water; Moderately soluble in alcohols (e.g. ethanol).
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	-4.37 (estimated)
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	240 °C (464 °F)
<b>Viscosity</b>	Not available (kinematic); Not applicable (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Solid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None known.

### Conditions to Avoid

Water, moisture or humidity. Acidic conditions (low pH). Alkaline conditions (high pH).

### Incompatible Materials

Strong bases (e.g. sodium hydroxide), strong acids (e.g. hydrochloric acid), water.

### Hazardous Decomposition Products

Toxic, corrosive chemicals; corrosive hydrogen fluoride; oxygen (a strong oxidizer).

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

---

Product Identifier: Ammonium Bifluoride (solid)

Date of Preparation: December 21, 2015

**Skin Corrosion/Irritation**

Corrosive based on information for closely related materials.

**Serious Eye Damage/Irritation**

Causes serious eye damage based on skin corrosion information.

**STOT (Specific Target Organ Toxicity) - Single Exposure****Inhalation**

May be harmful.

**Skin Absorption**

No information was located.

**Ingestion**

No information was located.

**Aspiration Hazard**

No information was located.

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

May cause irritation of the respiratory system. May cause respiratory tract injury, weak bones (fluorosis).

**Respiratory and/or Skin Sensitization**

Not known to be a respiratory sensitizer. No information was located for skin sensitization.

**Carcinogenicity**

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ammonium bifluoride	Not Listed	Not Listed	Not Listed	Not Listed

**Reproductive Toxicity****Development of Offspring**

No information was located.

**Sexual Function and Fertility**

No information was located.

**Effects on or via Lactation**

No information was located.

**Germ Cell Mutagenicity**

No information was located.

**Interactive Effects**

No information was located.

**SECTION 12. ECOLOGICAL INFORMATION**

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal Methods**

Dispose of contents and container in accordance with local, regional, national and international regulations.

**SECTION 14. TRANSPORT INFORMATION**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1727	AMMONIUM HYDROGENDIFLUORIDE, SOLID	8	
US DOT	UN1727	AMMONIUM HYDROGENDIFLUORIDE, SOLID	8	II

Product Identifier: Ammonium Bifluoride (solid)

Date of Preparation: December 21, 2015

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

Listed on the DSL.

#### USA

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

**Date of Preparation** December 21, 2015

**Date of Last Revision** August 18, 2016

**References** CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

**Disclaimer** This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.