

# Safety Data Sheet

## Ammonium Bifluoride

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ammonium Bifluoride

**Synonyms/Generic Names:** Ammonium Hydrogen Difluoride

**Product Number:** 0409

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Hazard Not Otherwise Classified (HNOC):** None

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 3
Skin corrosion	Category 1B
Serious eye damage	Category 1

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.

**Precautionary Statements:**

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
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+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/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.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

### Potential Health Effects

<b>Eyes</b>	Causes eye burns.
<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Ingestion</b>	Toxic if swallowed.

### NFPA Ratings

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

### HMIS Ratings

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	0

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ammonium Bifluoride	>95	1341-49-7	215-676-4	NH <sub>5</sub> F <sub>2</sub>	57.04 g/mol

## 4. FIRST-AID MEASURES

<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (nitrogen oxides, hydrogen fluoride gas, ammonia) under fire conditions. (See also Stability and Reactivity section)

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry well ventilated area. Hygroscopic. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ammonium Bifluoride	2.5 mg/m <sup>3</sup>	PEL	OSHA
	2.5 mg/m <sup>3</sup>	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles with a face shield.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, rubber apron or full chemical suit, and boots.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White solid
Odor	Not Available

Odor threshold	Not Available
pH	3.5 (5% solution)
Melting point/freezing point	126°C (259°F)
Initial boiling point and boiling range	240°C (463°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	78 mmHg @ 20°C
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Completely soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Heat and moisture.
<b>Incompatible Materials</b>	Strong oxidizing agents, acids, alkalis, amines, glass, metals.
<b>Hazardous Decomposition Products</b>	Hydrogen fluoride gas, nitrogen oxides, ammonia.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral – rat – 130 mg/kg

### Carcinogenicity

<b>IARC</b>	3 – Group 3: Not classifiable as to its carcinogenicity to humans (Ammonium Bifluoride).
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Burns.
<b>Eyes</b>	Conjunctivitis, corneal burns, blindness.
<b>Respiratory</b>	Chest pain, spitting blood, dyspnea, bronchopneumonia, cyanosis, shock, muscle spasm, convulsions, hematuria.
<b>Ingestion</b>	Ulceration, chest pain, spitting blood, shock, abdominal pain, nausea, vomiting, diarrhea, hematuria.

<b>Chronic Toxicity</b>	Causes damage to following organs: lungs, mucous membranes.
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Target Organ(s)</b>	Not Available

<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Product or Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

## 14. TRANSPORTATION INFORMATION

US DOT	UN1727, Ammonium Hydrogendifluoride Solid, 8, pg II
TDG	UN1727, AMMONIUM HYDROGENDIFLUORIDE SOLID, 8, PG II
IMDG	UN1727, AMMONIUM HYDROGENDIFLUORIDE SOLID, 8, PG II
Marine Pollutant	No
IATA/ICAO	UN1727, Ammonium Hydrogendifluoride Solid, 8, pg II

## 15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Not Listed
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Not Listed
Pennsylvania: Hazardous Substance List	Listed: Ammonium Bifluoride
New Jersey: Right to Know Hazardous Substance List	Listed: Ammonium Bifluoride
SARA 302	Not Listed
SARA 304	Not Listed

SARA 311	Acute Health Hazard.
SARA 312	Acute Health Hazard.
SARA 313	Not Listed
WHMIS Canada	Not Listed

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## 16. OTHER INFORMATION

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Revision	Date
Original	06/08/2012
Revision 1	02/16/2015
Revision 2	02/17/2015
Revision 3	06/06/2018
Revision 4	04/19/2022

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