

Section 1. Product and Company Identification

**Product Name** Ammonium Bifluoride  
**CAS Number** 1341-49-7

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
☎ (914) 654-6800 📠 (914) 654-6899  
🌐 [parchem.com](http://parchem.com) ✉ [info@parchem.com](mailto:info@parchem.com)

EMERGENCY RESPONSE NUMBER  
CHEMTEL  
Toll Free US & Canada: 1 (800) 255-3924  
All other Origins: 1 (813) 248-0585  
Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard Statements**

H301 Toxic if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

**Precautionary Statements**

P260 Do not breathe dust or mist.  
P264 Wash skin 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 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
Rinse mouth.  
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 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Immediately call a POISON CENTER or doctor/physician.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS:** None

Section 3. Composition / Information on Ingredients

**Common Name** Ammonium bifluoride  
**Synonym(s)** Ammonium hydrogen difluoride  
**Formula**  $H_5F_2N$   
**CAS Number** 1341-49-7

COMPONENT	CAS NUMBER	CONCENTRATION
Ammonium bifluoride	1341-49-7	≤ 100%

Section 4. First Aid Measures

**Description of first-aid measures**

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

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration.  
Consult a physician.

**Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.  
Continue rinsing eyes during transport to hospital.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person.  
Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed:** No data available



Section 5. Firefighting Measures

**Extinguishing media**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

**Special hazards arising from the substance or mixture:** Nitrogen oxides (NO<sub>x</sub>), Hydrogen fluoride

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** No data available

Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**Reference to other sections:** For disposal see section 13.

Section 7. Handling and Storage

**Precautions for safe handling:** Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Hygroscopic. Store under inert gas.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects



Section 8. Exposure Controls / Personal Protection

**Control parameters**

**Components with workplace control parameters**

Component	CAS No.	Value	Control Parameters	Basis
Ammonium Bifluoride	1341-49-7	TWA	2.500000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	CAS Number varies with compounds		
		TWA	2.500000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.28-1969		
		TWA	2.500000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices Not classifiable as a human carcinogen varies		
		TWA	2.500000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices Not classifiable as a human carcinogen Varies		
		TWA	2.5 mg/m <sup>3</sup>	
		CAS number varies with compound		
		TWA	2.5 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices Not classifiable as a human carcinogen varies		



**Biological Occupational Exposure Limits**

Component	CAS Number	Parameters	Value	Biological Specimen	Basis
Ammonium Bifluoride	1341-49-7	Fluoride	3.0000 mg/g	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to shift (16 hours after exposure ceases)			
		Fluoride	10.0000 mg/g	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		Fluoride	3.0000 mg/g	Urine	ACGIH - Biological Exposure Indices (BEI)
		Prior to shift (16 hours after exposure ceases)			
		Fluoride	10.0000 mg/g	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		Fluoride	2 mg/L	Urine	ACGIH - Biological Exposure Indices (BEI)
		Prior to shift (16 hours after exposure ceases)			
		Fluoride	3 mg/L	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

**Exposure controls**

**Appropriate engineering controls:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Personal protective equipment**

**Eye/face protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.



**Body Protection:** Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure:**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

**Appearance:** Crystalline

**Color:** White

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting point/range:** 125°C (257°F) - lit.

**Initial boiling point and boiling range:** No data available

**Flash point:** Not applicable

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** No data available

**Vapor pressure:** No data available

**Vapor density:** No data available

**Relative density:** 1.500 g/cm<sup>3</sup>

**Water solubility:** No data available

**Partition coefficient (n-Octanol/Water):** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available

**Viscosity:** No data available

**Explosive properties:** No data available

**Oxidizing properties:** No data available

**Other safety information:** No data available

Section 10. Stability and Reactivity

**Reactivity:** No data available

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** Avoid moisture.



**Incompatible materials:** Strong oxidizing agents

**Hazardous decomposition products**

**Other decomposition products:** No data available

In the event of fire: see section 5

Section 11. Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

**Inhalation:** No data available

**Dermal:** No data available

**Skin corrosion/irritation:** No data available

**Serious eye damage/eye irritation:** No data available

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** No data available

**Carcinogenicity**

**IARC:** 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Ammonium bifluoride)

**NTP:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** No data available

**Specific target organ toxicity - single exposure:** No data available

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available

**Additional Information**

**RTECS:** BQ9200000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea

Section 12. Ecological Information

**Toxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** No data available



Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US)**

**UN Number:** 1727

**Class:** 8

**Packing group:** II

**Proper shipping name:** Ammonium hydrogen difluoride, solid

**Reportable Quantity (RQ):** 100 lbs

**Poison Inhalation Hazard:** No

**IMDG**

**UN Number:** 1727

**Class:** 8

**Packing group:** II

**EMS-No:** F-A, S-B

**Proper shipping name:** Ammonium Hydrogen Difluoride, Solid

**IATA**

**UN Number:** 1727

**Class:** 8

**Packing group:** II

**Proper shipping name:** Ammonium hydrogen Difluoride, solid

Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** Acute Health Hazard

**Massachusetts Right to Know Components**

Ammonium bifluoride (CAS-No. 1341-49-7)

Revision Date: 1993-04-24

**Pennsylvania Right to Know Components**

Ammonium bifluoride (CAS-No. 1341-49-7)

Revision Date: 1993-04-24





**New Jersey Right to Know Components**

Ammonium bifluoride (CAS-No. 1341-49-7)

Revision Date: 1993-04-24

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**HMIS Rating**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**NFPA Rating**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. 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. It does not represent any guarantee of the properties of the product.

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