

PRODUCT IDENTIFICATION



Product Name: Ammonium Bifluoride Flakes Technical Grade
CAS Number: 1341-49-7
Molecular Formula: F_2H_5N
Molecular Weight: 57.044 g/mol
Grade: Technical Grade
Purity / Concentration: Not Available
Synonyms: Ammonium Hydrogen Fluoride, Ammonium Fluoride

PRODUCT OVERVIEW

Ammonium Bifluoride Flakes (CAS 1341-49-7) is a high-purity Technical Grade chemical characterized by its white crystalline structure and exceptional assay of 100.0%. This versatile compound is widely utilized across industrial sectors for its reactive etching and cleaning properties.

Grade Significance: Technical Grade signifies that this product meets stringent industrial standards for reliability and consistency, ensuring predictable performance in demanding manufacturing environments.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	100.0	99.5	100.5	Titration/Gravimetric
Water Karl Fischer	%	ND	0	0.1	Karl Fischer
Arsenic As	ppm	2.1	0	10	ICP-MS
Copper Cu	ppm	15	0	30	ICP-OES
Heavy Metals As Pb	ppm	5	0	10	ICP-MS (as Pb)
Iron	ppm	6	0	10	ICP
Lead Pb	ppm	2.5	0	5	ICP-MS
Nickel Ni	ppm	5	0	10	ICP-OES
Sulfate (SO_4^{2-})	%	ND	0	0.01	ICP-MS
Silica SiO_2	%	0.01	0	0.01	Gravimetric

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White crystalline flakes	Odor	Slightly pungent
Form	Solid	Boiling Point	463.1 °F at 760 mmHg (Decomposes at 446 °F) (USCG, 1999)
Melting / Freezing Point	258 °F (USCG, 1999)	Specific Gravity	1.5
Solubility	Highly soluble in water	Molecular Formula	F_2H_5N
Molecular Weight	57.044 g/mol	Density (25°C)	1.25 g/mL

APPLICATIONS

1. **Semiconductor Manufacturing** — Utilized as a high-precision etching agent to remove silicon dioxide layers during the fabrication of silicon wafers.
2. **Metal Processing** — Effectively cleans metal surfaces by dissolving stubborn oxide layers, ensuring optimal substrate preparation for further processing.
3. **Glass Industry** — Acts as an essential component in glass etching and frosting solutions, providing a consistent finish on delicate glass surfaces.
4. **Chemical Synthesis** — Serves as a reliable fluoride source for the synthesis of various specialized fluorinated compounds.
5. **Water Treatment** — Applied for precise pH adjustment in industrial water treatment processes to maintain system efficiency.

STORAGE & HANDLING

Ammonium Bifluoride is highly toxic and corrosive, requiring storage in a cool, dry, and well-ventilated area to prevent chemical decomposition and hazardous fume release. Proper containment is critical to mitigate the risk of severe skin burns and eye damage associated with accidental exposure.

- Store in a cool, dry place away from moisture.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Avoid contact with strong acids and bases to prevent hazardous reactions.
- Ensure proper ventilation in storage areas to minimize inhalation risks.
- Compatible with HDPE and glass containers; avoid metal containers.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 44 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H301: Toxic if swallowed
- H311: Toxic in contact with skin
- H314: Causes severe skin burns and eye damage
- H331: Toxic if inhaled

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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