

## Offer Sheet

Product	ABF (Ammonium Bifluoride 20%)
Packaging	Poly totes
Net weight	87,000 lbs.
Manufacture date	2025
Availability	One time
Location	Waller, TX 77481
Date	1/21/26
COA & SDS	Attached below



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**ABF (Ammonium Bifluoride 20%)** is an **aqueous solution (20% w/w)** of **ammonium bifluoride**, chemical formula **NH<sub>4</sub>HF<sub>2</sub>** (often represented in solution as a source of **HF / bifluoride ion (HF<sub>2</sub><sup>-</sup>)**). It functions as an **acidic fluorinating / etching agent**, used commercially as a **safer-to-handle alternative to concentrated hydrofluoric acid** in some applications (though it still presents serious fluoride toxicity hazards).

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### **Commercial uses for ABF (Ammonium Bifluoride 20%)**

#### **1) Glass etching / frosting / surface treatment**

Used to **etch silica-based surfaces**:

- Decorative glass etching / frosting
- Surface preparation prior to coating or printing
- Cleaning and restoration of glass surfaces

**Why it works:** fluoride chemistry attacks **SiO<sub>2</sub>** (silica), unlike most acids.

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#### **2) Stainless steel and metal cleaning (pickling / descaling)**

Used in metal finishing to remove:

- **oxide scale**
- **rust / heat tint**
- welding discoloration

Applications:

- stainless steel weld cleaning
  - aluminum cleaning (controlled use)
  - metal surface prep before coating, plating, or passivation
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#### **3) Brick / masonry / concrete cleaning**

Used as an acid cleaner for removal of:

- efflorescence
- cement haze
- mineral deposits
- rust staining (in some blends)

Common product forms:

- “masonry cleaner”
  - “concrete cleaner”
  - “brick wash”
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#### **4) Industrial equipment / heat exchanger cleaning (mineral deposit removal)**

Used in acidic descaling blends for:

- silica-containing scale
- mixed mineral deposits that standard acids (HCl, sulfamic) struggle with

Often formulated into proprietary cleaners for:

- boilers
  - heat exchangers
  - evaporators
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#### **5) Aluminum brightening and cleaning (formulated products)**

Used in:

- aluminum wheel cleaners
- aluminum brighteners for fleets
- trailer/tanker cleaning blends

**Commercial role:** removes oxidation and road film quickly.

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#### **6) Electronics / precision cleaning (specialty chemical blends)**

Used in controlled industrial processes for:

- oxide removal on certain surfaces
- specialty cleaning of glass/ceramics
- micro-etch steps (application-dependent)

*(This is typically in tightly controlled manufacturing environments.)*

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#### **7) Oilfield / industrial cleaning blends (limited but real)**

Sometimes included in blends for:

- dissolving mineral scale with silica content
  - cleaning certain deposits in industrial piping
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#### **Typical industries buying ABF 20%**

- **metal finishing / fabrication**
- **fleet washing / transportation maintenance**
- **construction cleaning / masonry contractors**
- **industrial maintenance & CIP chemical suppliers**
- **glass fabrication / decorative finishing**

## CERTIFICATE OF ANALYSIS

### Ammonium Bifluoride 20%

Customer:

Order Number:

Lot Number: 291826

Date Shipped:

Internal Order:

Vehicle Number:

Description	Units	Specification	Result
Clarity	0	Clear	Clear
Color	0	Colorless	Colorless
Density	0	8.64-8.88	8.84
Flake lot Number	0	0.00	TF230924
Percent Active ABF	0	18-23	19.98
Percent Actove Flouride	0	12-15.3	13.32
QC Retain Information	0	Pass	Pass
Specific Gravity		1.04-1.065	1.0601

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no presentation, warranty, or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer any warranty against patent infringement.

**Safety Data Sheet**  
Ammonium Bifluoride 20%

**SECTION I - IDENTIFICATION**

<b>Product Number</b>	00563
<b>Product Name</b>	Ammonium Bifluoride 20%
<b>Chemical Family</b>	Salts Solution.
<b>CAS Number</b>	Multiple
<b>Date Prepared</b>	7/17/2023
<b>Revision Number</b>	
<b>Recommended Use</b>	For industrial use.

**SECTION II - HAZARDOUS IDENTIFICATION**

**GHS CLASSIFICATION:**

**Classification**

Acute Toxicity, Dermal	Category 1, 2
Skin Corrosion/Irritation	Category 1A, B, C
Hazardous to the aquatic environment, acute hazard	Category 1

**DANGER!**

**GHS LABEL:**



**Hazard Statements**

H310	Fatal in contact with skin
H314	Causes severe burns and eye damage
H400	Very toxic to aquatic life

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**Precautionary Statements**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+352	IF ON SKIN: Wash with plenty of water, remove any contaminated clothing.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see ... on this label).
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to an approved reconditioning facility.

**SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS**

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Ammonium Bifluoride	1341-49-7	20 - 30	2.5mg/m <sup>3</sup>	2.5mg/m <sup>3</sup>
Hydrogen fluoride	7664-39-3	10 - 20	3.0 ppm	0.5 ppm
Water	7732-18-5	60 - 80	Not Established	Not Established

**SECTION IV - FIRST AID MEASURES**

**Contact with eyes:** Flush with water for 15 minutes. Seek immediate medical attention.  
Also possible hazard by simultaneous inhalation of the product. Burns may not be immediately painful or visible for up to 24 hours.

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- Skin contact:** Rinse cautiously with water and soap for several minutes.  
Get medical aid immediately.  
Remove contaminated clothing.  
Double bag all contaminated clothing for disposal.  
Immediately apply 2.5% calcium gluconate gel and massage into the affected area using rubber gloves.
- Inhalation:** Get medical aid immediately.  
Remove from exposure and move to fresh air immediately.  
In case of repeated exposure, risk of sore throat, nosebleeds, chronic bronchitis.
- Ingestion:** Get medical aid immediately.  
Do NOT induce vomiting unless directed to do so by medical personnel.  
May cause corrosive damage to the digestive tract.  
If conscious, give milk or water to drink.

#### SECTION V - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Use any means suitable for extinguishing fire.

**Special Fire Fighting Procedures** Use a self-contained breathing apparatus and full-body protective clothing.

**Unusual Fire Fighting Hazards:** No data available.

#### SECTION VI - ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Use personal protective equipment.

**Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.

**Methods for Cleaning Up:** Stop if possible. Contain and dike spilled product with earth or sand. Eliminate ignition or heat sources. Transfer to proper container. Collect remnants with an appropriate absorbent material. Wash the contaminated surface with water, which should be collected for disposal.

#### SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Avoid contact with eyes, skin, and clothing.
  - Store in a cool, dry, well-ventilated area away from incompatible substances.
  - Keep containers tightly closed when not in use.

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**SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

Component Name	CAS #	OSHA PEL	ACGIH TLV
Ammonium Bifluoride	1341-49-7	2.5mg/m <sup>3</sup>	2.5mg/m <sup>3</sup>
Hydrogen fluoride	7664-39-3	3.0 ppm	0.5 ppm
Water	7732-18-5	Not Established	Not Established

**Engineering Controls:** Ensure adequate ventilation, especially in confined areas.

**Monitoring:** Handle in accordance with good industrial hygiene and safety practice.  
Wash thoroughly after handling.

**Personal Protective Equipment (PPE)**

**Eye Protection:** Wear chemical splash goggles.

**Skin Protection:** Wear appropriate clothing.

**Respiratory Protection:** A suitable mask with filter type A may be appropriate.

**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Liquid, clear
<b>Odor</b>	Slight Acrid.
<b>pH@25°C</b>	Not available.
<b>Melting/Freezing Point</b>	7.2 C/45F
<b>Flashpoint</b>	Not available.
<b>Specific Gravity</b>	1.05
<b>Solubility</b>	Soluble
<b>Auto-Ignition Temperature</b>	Not available.
<b>Decomposition Temperature</b>	>230 C/446F (for pure Ammonium bifluoride)
<b>VOC Content</b>	Not available.
<b>Odor Threshold</b>	No information available
<b>Boiling Range</b>	Not available.
<b>Evaporation Point</b>	Not available.
<b>Flammable Limits - Upper</b>	Not available.
<b>Flammable Limits - Lower</b>	Not available.
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density (Air=1)</b>	8.80
<b>Viscosity</b>	Not available.

**SECTION X - STABILITY AND REACTIVITY**

**Stability:** No data available.

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**Conditions to Avoid:** Keep away from heat and sources of ignition.  
Avoid any moisture.

**Hazardous Decomposition/Byproducts:** Will decompose to evolve hydrogen fluoride, ammonia, and nitrogen oxides.

**Hazardous Polymerization:** No data available.

**Polymerization Conditions to Avoid:** No data available.

**Incompatibilities:** Strong acids and bases, strong oxidizers.  
Glass, cement and corrode metals.

## SECTION XI - TOXICOLOGICAL INFORMATION

**Likely Route of Exposure:** Skin contact, ingestion, eye contact, inhalation

**Inhalation:** May be harmful if inhaled.

**Eye Contact:** May cause eye irritation.

**Skin Contact:** May cause skin irritation.

**Ingestion:** No data available.

**Acute Toxicity Value:** No data available.

**Chronic (Long Term) Effects:** Oral route, after prolonged exposure, rat/mouse. Target organ> skeleton, thyroid, testes, liver, 1 mg/kg, observed effect.

### Toxicity:

Component Name	LD50	LC50
Ammonium Bifluoride	Not Established	Not Established
Hydrogen fluoride	Not Established	Not Established
Water	Not Established	Not Established

**Reproductive Effects** No information available.



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<b>Teratogenicity</b>	No information available.
<b>Mutagenicity</b>	No information available.
<b>Embryotoxicity</b>	No information available.
<b>Sensitization to Product</b>	No information available.
<b>Synergistic Products</b>	No information available.
<b>Carcinogenicity</b>	Oral route, after prolonged exposure, rat/mouse. Target organ>skeleton, th

### SECTION XII - ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	No data available.
<b>Mobility:</b>	No data available.
<b>Degradability:</b>	Not readily biodegradable.
<b>BioAccumulation:</b>	No data available.

### SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Dispose of spilled material in accordance with state and local regulations for hazardous waste. Recommended methods are incineration or biological treatment at a federally or state-permitted disposal facility. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete. Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

### SECTION XIV - TRANSPORT INFORMATION

#### DOT SHIPPING INFORMATION

<b>Proper Shipping Name:</b>	Ammonium hydrogendifluoride Solution
<b>Contains:</b>	UN2817
<b>Hazard Class and Label:</b>	6.1
<b>Identification Number:</b>	
<b>Packaging Group:</b>	II
<b>Other Shipping Info:</b>	UN2817 Ammonium hydrogendifluoride Solution, 8 (6.1) PGII.
<b>IMDG:</b>	UN2817 Ammonium hydrogendifluoride Solution, 8 (6.1) PGII.
<b>IATA:</b>	UN2817 Ammonium hydrogendifluoride Solution, 8 (6.1) PGII.

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**SECTION XV - REGULATORY INFORMATION**

**TSCA STATUS:**..... The components of this product are listed on the TSCA Inventory.

**SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:**

Component Name	CAS #	% by wt.	RQ (lbs.)	TPQ (lbs.)
Hydrogen fluoride	7664-39-3	10 - 20		100

**SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:**

Acute	Chronic	Fire	Pressure	Reactive
X	N/A	X	N/A	N/A

**SARA TITLE III SECTION 313 SUPPLIER INFORMATION:**

Component Name	CAS #	% by wt.
Hydrogen fluoride	7664-39-3	10 - 20

**CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:**

Component Name	CAS #	% by wt.	RQ (lbs.)
Ammonium iflouride	1341-49-7	20 - 30	100
Hydrogen fluoride	7664-39-3	10 - 20	100

**CALIFORNIA PROPOSITION 65:**

No chemicals in this material are subject to the reporting requirements.

**SECTION XVI - OTHER INFORMATION**

**HMIS Health:** ..... 3

**HMIS Flammability:** ..... 0

**HMIS Reactivity:** ..... 0

**Additional:**

**Safety Data Sheet**  
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**Specification Information**

**Department issuing data sheet:**

**Email address:**

**Training necessary:** Follow all local, state and federal regulations

**Disclaimer:**

Seller and manufacturer disclaim any implied or expressed warranties, including warranties of merchantability or fitness of this product for any particular purpose. In no event shall seller be liable for any claim for incidental or consequential damages arising out of or in connection with the sale, delivery, transportation or use of this product. Seller's and manufacturer's liability in all events is limited to, and shall not exceed the purchase price paid for this product.