



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Ammonium Fluoride, 17% (w/w)

Product Number: R0628700

Other Identifying Product Numbers: R0628700-1A

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Eye Damage / Irritation	Category 2	H319	P264, P280, P305+P351+P338, P337+P313
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 1	H372	P260, P264, P270, P314, P501

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2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical attention.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	82.04
Ammonium Fluoride	NH ₄ F	37.03 g/mol	12125-01-8	17.96

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SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause severe irritation with possible permanent damage.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: May cause irritation and possible burns to the skin. May be absorbed through the skin. Effects may not appear immediately.

Ingestion: Administer with milk, chewable calcium carbonate tablets or milk of magnesia. Vomiting may occur spontaneously. Do not induce. Call a physician immediately.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes serious eye irritation. Causes damage to organs through prolonged or repeated exposure. Toxic! May be fatal if swallowed or inhaled. Avoid ingestion and contact with skin, eyes, or clothing. Irritation and burn effects may be delayed. If swallowed, give large quantity of water or milk. Do not induce vomiting. Vomiting may occur spontaneously. Call a physician immediately. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. **EYE CONTACT:** May cause severe irritation with possible permanent damage. **SKIN CONTACT:** May cause irritation and possible burns to the skin. May be absorbed through the skin. Effects may not appear immediately. **CHRONIC EFFECTS / CARCINOGENICITY:** Chronic exposures may cause mottling of teeth and bone damage and fluorosis. Symptoms of fluorosis include brittle bones, weight loss, anemia, calcified ligaments, general ill health and joint stiffness.

4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Get medical attention immediately. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wipe off any excess material from skin and then immediately flush with plenty of soap and water for at least 15 minutes. Apply bandages soaked in Magnesium Sulfate. Administer with milk, chewable calcium carbonate tablets or milk of magnesia. Vomiting may occur spontaneously. Do not induce. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not combustible, but if involved in a fire, decomposes to produce ammonia, hydrogen fluoride, and oxides of nitrogen.

5.3. Special Protective Equipment for Firefighters

Wear special protective clothing and positive pressure self-contained breathing apparatus.

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SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Isolate the area. Stop or control the leak, if this can be done without undue risk. Shovel into suitable dry container.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from physical damage. Keep in tightly closed containers in a cool, dry area.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ammonium Fluoride (12125-01-8)	TLV-TWA	USA	"2.5 mg/m ³ TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Fluoride (12125-01-8)	TWA	USA	"2.5 mg/m ³ TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Fluoride (12125-01-8)	TLV-TWA	USA	"2.5 mg/m ³ TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Fluoride (12125-01-8)	TWA	USA	"2.5 mg/m ³ TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Fluoride (12125-01-8)	TLV-TWA	USA	2.5 mg/m ³ TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Fluoride (12125-01-8)	TWA	USA	2.5 mg/m ³ TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: A system of local or general exhaust is recommended to keep exposure levels below the Airborne Exposure Limits.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.



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8.3. Personal Protective Equipment

Wear protective gloves and eye protection. A system of local or general exhaust is recommended to keep exposure levels below the Airborne Exposure Limits. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Aqueous solution is acidic

Melting/Freezing Point: Data not available.

Initial Boiling Point/Range: Data not available.

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.06

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.



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10.3. Conditions to Avoid and Incompatible Materials

Potassium chlorate, sodium nitrite, chlorine trifluoride, and calcium (+2) solution. Reacts with acids to liberate hydrogen fluoride and bases to liberate ammonia. Corrodes glass.

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: No information found.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.



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Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

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SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Sizes: 1 L

UN Number: UN3287

Proper Shipping Name: Toxic Liquid, Inorganic, n.o.s. (Ammonium Fluoride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):



14.2. Transportation by Air - International Air Transport Association (IATA)

Sizes: 1 L

UN Number: UN3287

Proper Shipping Name: Toxic Liquid, Inorganic, n.o.s. (Ammonium Fluoride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L

UN Number: UN3287

Proper Shipping Name: TOXIC LIQUID, INORGANIC, N.O.S. (ammonium fluoride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):



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SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Ammonium Fluoride (CAS # 12125-01-8): 100 lb final RQ; 45.4 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Ammonium Fluoride (CAS # 12125-01-8): "1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]

Ammonium Fluoride (CAS # 12125-01-8): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

15.5. Massachusetts Right-to-Know Substance List

Ammonium Fluoride (CAS # 12125-01-8): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ammonium Fluoride (CAS # 12125-01-8): Environmental hazard

Ammonium Fluoride (CAS # 12125-01-8): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Ammonium Fluoride (CAS # 12125-01-8): "sn 0936" As Fluorides [RR-02792-9]

Ammonium Fluoride (CAS # 12125-01-8): sn 0099

Ammonium Fluoride (CAS # 12125-01-8): sn 0936

15.8. California Proposition 65

Not listed.

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Ammonium Fluoride (CAS # 12125-01-8): Present (DSL)

Water (CAS # 7732-18-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Ammonium Fluoride (CAS # 12125-01-8): Present (ACTIVE)

Water (CAS # 7732-18-5): Present (ACTIVE)

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15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Ammonium Fluoride (CAS # 12125-01-8): 235-185-9

Water (CAS # 7732-18-5): 231-791-2

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Causes serious eye irritation. Causes damage to organs through prolonged or repeated exposure.

Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if you feel unwell. If eye irritation persists: Get medical attention.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

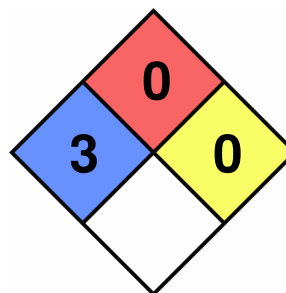
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 3
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2023-09-11

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.