



Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Fluoboric Acid, 20% (v/v)

Product Number: R3174950

Other Identifying Product Numbers: R3174950-500A

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 hr)

CHEMTREC (USA) 800-424-9300
CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

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

Hazard Class	Category	Hazard Statement	Precautionary Statements
Acute Toxicity - Oral	Category 4	H302	P264, P270, P301+P312, P330, P501
Skin Corrosion / Irritation	Category 1A	H314	P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501
Eye Damage / Irritation	Category 1	H318	P280, P305+P351+P338, P310
Specific Target Organs/Systemic Toxicity Following Single Exposure	Category 2	H371	P260, P264, P270, P308+P311, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 1	H372	P260, P264, P270, P314, P501
Corrosive to Metals	Category 1	H290	P234, P390, P406

Safety Data Sheet

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P234	Keep only in original container.
P260	Do not breathe dust, fumes or mist.
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.
P301+P312	IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to d Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER or physician.
P310	Immediately call a POISON CENTER or physician.
P314	Get medical attention if you feel unwell.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents in accordance with local, state, federal and international regulations.



Safety Data Sheet

2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

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	83.18%
Fluoboric Acid	HBF ₄	87.81 g/mol	16872-11-0	16.82%

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. Corrosive! Causes irritation and burns. Can cause burns that may lead to permanent impairment of vision, including blindness.

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

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. May cause serious damage to the skin. Effects may include redness, pain, skin burns.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

4.2. Most Important Symptoms and Effects, Acute and Delayed

DANGER! Handle this reagent with extreme care. CORROSIVE. Causes severe irritation and burns to all areas of contact. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Use with adequate ventilation. If swallowed, do not induce vomiting. Give large quantity of water and call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: Corrosive! Causes irritation and burns. Can cause burns that may lead to permanent impairment of vision, including blindness. SKIN CONTACT: May cause serious damage to the skin. Effects may include redness, pain, skin burns.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.



Safety Data Sheet

5.2. Specific Hazards Arising from the Substance or Mixture

Not combustible, but material reactive with active metals, releasing flammable hydrogen gas.

5.3. Special Protective Equipment for Firefighters

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

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

Stop or control the leak, if this can be done without undue risk. Approach the release from upwind. Control runoff and isolate discharged material for proper disposal.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Do not mix with bases.

SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Fluoboric Acid (16872-11-0)	TWA	USA	2.5 mg/m ³ TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
			2.5 mg/m ³ TWA (dust)	
Fluoboric Acid (16872-11-0)	TLV-TWA	USA	2.5 mg/m ³ TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

8.2. Exposure Controls

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves, Neoprene or PVC.

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

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Chemical resistant gloves, Neoprene or PVC. Safety glasses or goggles.



Safety Data Sheet

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: Data not available.

Melting/Freezing Point: Approximately 0°C

Initial Boiling Point /Range: 130°C - 130°C

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: 1.1

Solubility: Miscible

Partition Coefficient (n-Octanol/Water): 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.

10.3. Conditions to Avoid and Incompatible Materials

Keep only in original container. Fluoboric Acid is incompatible with alkalis, acetic anhydride, hexafluoroisopropylideneaminolithium, metals (forms flammable hydrogen gas).



Safety Data Sheet

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

No LD50 information found.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye damage. 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. Immediately call a POISON CENTER or physician.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.



Safety Data Sheet

Specific Target Organ Toxicity from Single Exposure:

May cause damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed or concerned: Call a POISON CENTER or physician. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe dust, fumes or mist. 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.



Safety Data Sheet

SECTION 14: Transportation Information

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

Sizes: 500 mL

UN Number: UN1775

Proper Shipping Name: Fluoroboric Acid

Hazard Class: 8

Packing Group: II

Hazard Placard Labels:



Sizes:

UN Number:

Proper Shipping Name:

Hazard Class:

Packing Group:

Hazard Placard Labels:

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

Sizes: 500 mL

UN Number: UN1775

Proper Shipping Name: Fluoroboric Acid

Hazard Class: 8

Packing Group: II

Hazard Placard Labels:



SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.



Safety Data Sheet

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

Not listed.

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

Not listed.

15.5. Massachusetts Right-to-Know Substance List

Not listed.

15.6. Pennsylvania Right-to-Know Hazardous Substances

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

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

Fluoboric Acid (CAS # 16872-11-0): corrosive

Fluoboric Acid (CAS # 16872-11-0): sn 0934

Fluoboric Acid (CAS # 16872-11-0): sn 0936

15.8. California Proposition 65

Not listed.

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

Fluoboric Acid (CAS # 16872-11-0): Present (DSL)

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

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

Fluoboric Acid (CAS # 16872-11-0): Present

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

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

Not listed.



Safety Data Sheet

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs. Causes damage to organs through prolonged or repeated exposure.

Keep only in original container. Do not breathe dust, fumes or mist. 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 SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

16.2. Miscellaneous Hazard Classes

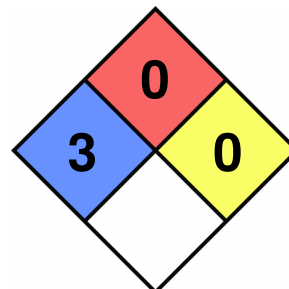
Canadian Carcinogenicity Hazard Class: Not Applicable.

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

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

16.3. National Fire Protection Association (NFPA) Rating

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





Safety Data Sheet

16.4. Document Revision

Last Revision Date: 5/1/2015

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.