

Fluoboric Acid 48%**SECTION 1. IDENTIFICATION**

Product Identifier	Fluoboric Acid 48%
Other Means of Identification	Tetrafluoroboric acid
Product Code(s)	FL1020
Product Family	Inorganic solution
Recommended Use	Industrial.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0841

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Skin corrosion - Category 1B; Serious eye damage - Category 1; Reproductive toxicity - Category 1B

Label Elements

Signal Word:
Danger

Hazard Statement(s):

Causes severe skin burns and eye damage.
May damage fertility or the unborn child.

Precautionary Statement(s):

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash hands thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTRE or doctor.

Storage:

Store locked up.

Product Identifier: Fluoboric Acid 48%
Date of Preparation: December 20, 2016

Disposal:
Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Fluoboric Acid	16872-11-0	40 - 60	Tetrafluoroboric acid
Boric acid	10043-35-3	1 - 2.5	Boracic acid

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result. May damage fertility or the unborn child.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Does not burn. Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: corrosive hydrogen fluoride. Boron Oxide.

Special Protective Equipment and Precautions for Fire-fighters

Product Identifier: Fluoboric Acid 48%

Date of Preparation: December 20, 2016

Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Neutralize with Soda Ash or Lime, then absorb with Vermiculite, dry sand, or earth. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area. Dike and recover contaminated water for appropriate disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating vapours or mists. Only use where there is adequate ventilation. Never add water to a corrosive. Always add corrosives slowly to COLD water. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Fluoboric Acid	2.5 mg/m ³		2.5 mg/m ³			
Boric acid	2 mg/m ³ A4	6 mg/m ³				

A4 = Not classifiable as a human carcinogen.

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance Colourless liquid.

Product Identifier: Fluoboric Acid 48%

Date of Preparation: December 20, 2016

Page 03 of 06

Odour	Not available
Odour Threshold	Not available
pH	< 2
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	~ 2.3 kPa (17.3 mm Hg)
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.31 - 1.41
Solubility	Very soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Excess heat. Incompatible materials.

Incompatible Materials

Metals (e.g. aluminum), strong bases (e.g. sodium hydroxide).

Hazardous Decomposition Products

Corrosive hydrogen fluoride. boron Oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Fluoboric Acid	Not available	Not available	Not available
Boric acid	Not available	2660 mg/kg (rat)	2000 mg/kg (rabbit)

Skin Corrosion/Irritation

Human experience shows moderate or severe irritation.

Serious Eye Damage/Irritation

Product Identifier: Fluoboric Acid 48%

Date of Preparation: December 20, 2016

Causes serious eye irritation based on skin irritation information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes nose and throat irritation.

Ingestion

Causes irritation of the mouth, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Fluoboric Acid	Not Listed	Not designated	Not Listed	Not Listed
Boric acid	Not Listed	Not Listed	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

May harm the unborn child.

Sexual Function and Fertility

May cause effects on sexual function and/or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
IMO (Marine)	UN1775	Fluoroboric acid	8	II
IATA (Air)	UN1775	Fluoroboric acid	8	II
Canadian TDG	UN1775	Fluoroboric acid	8	II

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Product Identifier: Fluoboric Acid 48%

Date of Preparation: December 20, 2016

Page 05 of 06

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating	Health - 3	Flammability - 0	Instability - 0
SDS Prepared By	Alphachem Limited		
Phone No.	(905)-821-2995		
Date of Preparation	December 20, 2016		
Date of Last Revision	December 21, 2016		
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).		
Disclaimer	This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.		