



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666

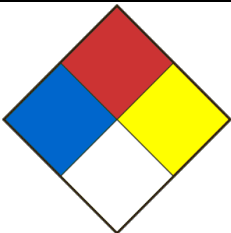
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier FLUOBORIC ACID. SOLUTION 50%W/W		Product Use Laboratory use	
Chemical formula HBF ₄		Product code FS-0437	Molar weight 87,81
Chemical name / Commercial name / Synonymous FLUOBORIC ACID, BOROFUORIC ACID, HYDROFLUOBORIC ACID, HYDROGEN TETRAFLUOROBORATE, TETRAFLUOROBORIC ACID			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666 CENTRE ANTI-POISON DU QUÉBEC 800-463-5060		
Date SDS 8/5/2021	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Skin corrosion/irritation - Skin corrosion category 1B Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 4
Signal Word	DANGER
Hazards statements (H)	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H302 Harmful if swallowed.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapors / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P321 Specific treatment (see section 4 of the SDS and on this label). P363 Wash contaminated clothing before reuse. P405 Store locked up. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P270 Do no eat, drink or smoke when using this product. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 3 Fire 0 Reactivity 1 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide fluoroborique	16872-11-0	50

SECTION 04 - FIRST AID MEASURES

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Treat the exposed skin with a 2.5% calcium gluconate gel, repeated application, until the burning sensation ceases. Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. Consult a physician.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Get immediate medical help. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Most important symptoms and effects (acute and delayed)	The product is toxic, corrosive and irritant. Main symptoms of high exposure: Chemical burns of the skin. Eye damage. Effects may be delayed. The corrosive effect will outweigh the toxicity for the concentrated product. Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available. In case of poisoning, the following can be administered as an antidote: Milk. Calcium carbonate in chewable tablets. Milk of Magnesia.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	No
Ignition conditions	Not flammable or combustible.
Suitable extinguishing media	Water spray, carbon dioxide, dry chemical powder, alcohol or polymer foam.
Unsuitable extinguishing media	Data not available.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: Hydrogen fluoride. Boron oxides.
Special fire and explosion hazards	May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	Evacuate personnel to safe areas. Cover the residues with sodium carbonate or calcium oxide to neutralize the product. When handling, wear appropriate safety equipment. Use a respirator as needed. Clean and rinse with water. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Keep container tightly closed and store away from heat, moisture, and incompatible products. Protect against the sun's rays.
Methods of handling	Ensure adequate ventilation. Bottle in plastic containers as this product corrodes the glass. Avoid contact with the skin, eyes and clothes. Avoid inhalation of vapor or mist. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Composants	No.-CAS	Control parameters	Value	Basis
Fluoroboric acid	16872-11-0	TWA	2.5 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarques				
		VEMP	2.5 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWAEV	2.5 mg/m ³	Canada. Ontario OELs
		TWA	2.5 mg/m ³	Canada. British Columbia OEL

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Incolore à jaune pâle.
Odour	Piquante.
Odour threshold	Data not available
pH	Donnée non-disponible.
Melting point / Freezing point	-90°C
Initial boiling point	130°C
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	~ 1.0 (Butyl Acetate = 1.0).
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	23hPa @ 20 °C.
Solubility	Miscible avec l'eau et l'alcool.
Vapour density	3.0 (Air = 1.0)-
Relative density	1.4g/ml
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Acid product, reacts strongly with strong bases.
Chemical stability	If heated strongly, it emits toxic fumes.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid moisture and excessive heat. Light sensitive.
Incompatible material	Strong bases, Metals, Alkali metals, Powdered metals. Aluminum, iron. Alkaline earth. alkalis. Strong oxidizers. Cyanides. Glass. Generates flammable and / or toxic gases on contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides and strong reducing agents. Other gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2) and carbonates. May initiate the polymerization of some alkenes.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride. Boron oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

FLUOBORIC ACID

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product.
- Eyes	Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations. Perhaps fatal, if the extent of the burns is considerable.
- Inhalation	Extremely destructive to the tissues of the mucous membranes and to the upper respiratory system. Inflammation and edema of the larynx and bronchi, chemical pneumonia, spasms and pulmonary edema. To our knowledge, the product has not been fully studied.
Acute toxicity (Ingestion)	To our knowledge, the product has not been fully studied. Burns and corrosion of the digestive tract.
Chronic exposure effects / symptoms	Burning sensation, cough, laryngitis, shortness of breath, headache, nausea and vomiting. Fluoride ion can lower serum calcium levels, which can lead to fatal hypocalcaemia. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 100-200mg/kg. LD50 Dermal: Data not available.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SUMMARY

Acute exposure effects / Symptoms:	By exposure routes below.
Ingestion	To our knowledge, the product has not been fully evaluated
Inhalation	To our knowledge, the product has not been fully evaluated
Skin	To our knowledge, the product has not been fully evaluated
Eyes	To our knowledge, the product has not been fully evaluated
Chronic exposure effects / Symptoms:	To our knowledge, the product has not been fully evaluated
ETA Mix (Estimated Acute Toxicity)	LD50 Oral: 400 mg/kg - Rat LD50 Dermal: No data available LC50 Inhalation: No data available

SECTION 12 - ECOLOGICAL INFORMATION

Available ecological information	No
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SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	1775
UN Proper shipping name	ACIDE FLUOROBORIQUE
Transport hazard class(es)	8 Corrosive substances
Packing group	II
Limited quantity index	1L
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Skin corrosion/irritation - Skin corrosion category 1B Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 4
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SECTION 16 - OTHER INFORMATION

Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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