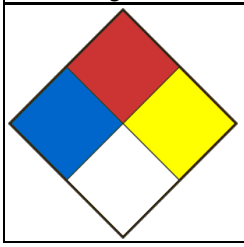
Centre Anti-Poison pour le Québec: (800) 463-5060
Tél. (Qc): (418) 660-8666 / 800-890-8666
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier HYDROFLUORIC ACID 0.01M		**Product Use** Laboratory use	
Chemical formula HF		**Product code** HS-0701	**Molar weight** 20,01
Chemical name / Commercial name / Synonymous ACIDE FLUORHYDRIQUE, HYDROFLUORIC ACID, SOLUTION AQUEUSE DE FLUORURE D'HYDROGÈNE 0.01M, HYDROFLUORURE			
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 6/27/2022	**SDS Prepared by** Laboratoire MAT	**E-Mail** labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Not a hazardous substance according to WHMIS 2015
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	**Health** 2 **Fire** 0 **Reactivity** 0 **Special danger**

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide fluorhydrique	7664-39-3	0.02

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. While awaiting the arrival of the aid, the patient may be ingested with a solution of 10% calcium gluconate or 5% calcium chloride. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Most important symptoms and effects (acute and delayed)	Main symptoms of high exposure: Irritatation of the respiratory system. Eyes irritation. Cough. Causes burns, regardless of exposure routes. Abdominal pain. Nausea and vomiting. Effects may be delayed. 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: Calcium gluconate 2.5%.
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	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Not applicable.
Dangerous fumes - combustion	When heated to decomposition, hydrofluoric acid releases toxic vapors of hydrogen fluoride.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: - Gaseous hydrogen fluoride.
Special fire and explosion hazards	When concentrated, the product reacts according to the following characteristics: The contact of hydrofluoric acid with certain metals can release hydrogen, a highly flammable gas. Violent and explosive reactions may occur in contact with: chlorosulfonic acid, nitric acid + glycerin, nitric acid + lactic acid, nitric acid + propylene glycol, sulfuric acid , acetic anhydride, ammonium hydroxide, arsenic trioxide, calcium oxide, ethylene diamine, fluorine, mercuric oxide + organic materials, oleum, phosphorus pentoxide potassium, potassium hydroxide, potassium permanganate, propylene oxide, sodium, sodium hydroxide and vinyl acetate. Hydrofluoric acid reacts violently with glass. 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 / Personnal precautions, protective equipment	Evacuate personnel to safe areas. If it is hydrofluoric acid in solution, it may be neutralized with sodium carbonate or calcium carbonate in a mixture, optionally, depending on the quantities, with an inert material. Use a respirator as needed. Ensure adequate ventilation. When handling, wear appropriate safety equipment. Prevent further leakage or spillage if it is safe to do so. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Do not store in glass Store in corrosive resistant polyethylene container with a resistant inner liner. Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Protect from the sun's rays. Keep container tightly closed and store away from heat, water, moisture, and incompatible products.
Methods of handling	Avoid contact with the skin, eyes and clothes. Avoid ingestion and inhalation. Provide an emergency kit nearby. Bottle in plastic containers only. Aqueous solutions can also corrode glass and porcelain and must be stored in plastic containers. 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

Components	CAS-No.	Value	Control parameters	Basis
Hydrofluoric acid	7664-39-3	(c)	2 ppm 1.6mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks				
		C	2ppm	Canada. British Columbia OEL
		TWAEV	0.5ppm	Canada. Ontario OELs
		CEV	2 ppm	Canada. Ontario OELs
		C	3ppm 2.6mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108			
		TWA	0.5 ppm 0.4 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		(c)	2 ppm 1.6 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		C	2 ppm	Canada. British Columbia OEL
		C	3 ppm 2.6 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108			
		TWA	0.5 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	2ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.5 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	2 ppm	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Fan.
Respiratory	If work under the hood is not possible, or 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	Liquide incolore.
Odour	Forte, suffocante, irritante.
Odour threshold	Data not available
pH	1,75 en solution à 0,5 M (1 %) (pH calculé) (pKa=3.14).
Melting point / Freezing point	Data not available
Initial boiling point	Data not available
Boiling range	Data not available
Flash point	
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Solubility	Miscible dans l'eau en toutes proportions, légèrement soluble dans l'éther.
Vapour density	Data not available
Relative density	1.00g/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. May react violently with incompatible substances.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Excessive heat and contaminations of all kinds. Light sensitive.
Incompatible material	Strong bases, glass, ceramics, concrete, carbonates, cyanides, sulfides, acid anhydrides, sulfuric acid, arsenic trioxide, calcium oxide, silicone-based materials, oxidizing or reducing materials, metals alkalis, aluminum, stainless steel, organic and combustible substances, heat, humidity, sunlight and light.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride.

SECTION 11 - TOXICOLOGICAL INFORMATION

HYDROFLUORIC ACID (70%)

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	(The liquid as well as the vapors are extremely corrosive). Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	(The liquid as well as the vapors are extremely corrosive). Severe burns and tissue ulcerations. Burns can penetrate deeply into the underlying tissues of the skin to reach the bone, and attack the bone through secondary hypocalcemia. May be fatal, if the extent of the burns is considerable.
- Inhalation	Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.
Acute toxicity (Ingestion)	Corrosion and ulcerations of the gastrointestinal tract. Dysphagia, liver and kidney damage, abdominal pain, cramps, diarrhea, melena, hematemesis, necrosis of the esophagus and stomach, stenosis, cardiac disorders, hypocalcemia, convulsions, circulatory collapse, unconsciousness, coma, and death.
Chronic exposure effects / symptoms	Burning sensation, nerve disorders, lung damage, chest pain, cough, dyspnea, bronchitis, headache, dizziness, sweating, salivation, tremors, dental enamel abrasion, anemia, leukopenia, fatigue, weight loss and loss of appetite, convulsions, nausea and vomiting. Prolonged exposure to this product may promote the development of skin ulcers, bone (osteosclerosis) and joint lesions, fluorosis, secondary hypocalcemia, and may even result in gangrene.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 1h - 1 307-2 340 ppm

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: No data available LD50 Dermal: No data available LC50 Inhalation: >100 000 ppm - 1h - Rat

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Hydrofluoric acid: Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Water flea): EC50: 270 mg/L-48h. Toxicity to freshwater fish: Leuciscus idus(Ide) - 660mg/L-48h.
Persistence and degradability	Persistence is unlikely based on information available.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility due to its solubility in water.
Other adverse effects	Do not throw residues in the sewer.

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	N/R
UN Proper shipping name	
Transport hazard class(es)	
Packing group	
Limited quantity index	
ERAP Index	
Special precautions	

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Not a hazardous substance according to WHMIS 2015

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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