



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

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


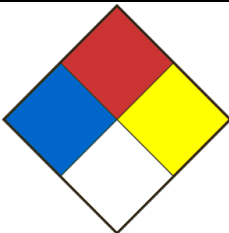
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## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier HYDROFLUORIC ACID 0.1M		Product Use Laboratory use	
Chemical formula HF		Product code HS-0801	Molar weight 20,01
Chemical name / Commercial name / Synonymous ACIDE FLUORHYDRIQUE, HYDROFLUORIC ACID, SOLUTION AQUEUSE DE FLUORURE D'HYDROGÈNE 70%, 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 10/26/2023	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Dermal category 3 Skin corrosion/irritation - Skin corrosion category 1
<b>Signal Word</b>	DANGER
<b>Hazards statements (H)</b>	H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.
<b>Precautionary statements (P)</b>	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. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. 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. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see section 4 of the SDS and on this label). P361 + P364 Take off immediately all contaminated clothing and wash it before reuse. 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.
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	<b>Health</b> 3 <b>Fire</b> 0 <b>Reactivity</b> 0 <b>Special danger</b>

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
ACIDE HYDROFLUORIQUE	7664-39-3	0.2

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	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.
<b>Skin contact</b>	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.
<b>Inhalation</b>	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	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.
<b>Most important symptoms and effects (acute and delayed)</b>	Main symptoms of high exposure: Irritation 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.
<b>Immediate medical attention and special treatment, if necessary</b>	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%.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	No
<b>Ignition conditions</b>	Not flammable or combustible.
<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Not applicable.
<b>Dangerous fumes - combustion</b>	When heated to decomposition, hydrofluoric acid releases toxic vapors of hydrogen fluoride.
<b>Hazardous combustion products</b>	Hazardous combustion products formed under fire conditions: - Gaseous hydrogen fluoride.
<b>Special fire and explosion hazards</b>	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).
<b>Special protective equipment and precautions for firefighters</b>	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

<b>Methods and materials for containment and cleaning up / Personal precautions, protective equipment</b>	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.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	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.
<b>Methods of handling</b>	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)

<b>Data source</b>	Sigma-Aldrich (Millipore Sigma)
<b>Ventilation</b>	Fan.
<b>Respiratory</b>	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.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	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

<b>Physical state</b>	Liquid.
<b>Appearance</b>	Liquide incolore.
<b>Odour</b>	Forte, suffocante, irritante.
<b>Odour threshold</b>	Data not available
<b>pH</b>	2.07 en solution à 0.1 M (pH calculé) (pKa=3.14).
<b>Melting point / Freezing point</b>	~0°C
<b>Initial boiling point</b>	~100°C
<b>Boiling range</b>	Data not available
<b>Flash point</b>	Data not available
<b>Evaporation rate</b>	Data not available
<b>Flammability</b>	No
<b>Lower flammable / Explosive limit</b>	Data not available
<b>Upper flammable / Explosive limit</b>	Data not available
<b>Vapour pressure</b>	Data not available
<b>Solubility</b>	Miscible dans l'eau en toutes proportions, légèrement soluble dans l'éther.
<b>Vapour density</b>	Data not available
<b>Relative density</b>	1.002 (Théorique)g/ml
<b>Partition coefficient water/n-octanol</b>	Data not available
<b>Auto-ignition temperature</b>	Data not available
<b>Decomposition temperature</b>	Data not available
<b>Viscosity</b>	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	Acid product, reacts strongly with strong bases. May react violently with incompatible substances.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	May react violently with incompatible substances.
<b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b>	Excessive heat and contaminations of all kinds. Light sensitive.
<b>Incompatible material</b>	When pure, the product reacts with the following products: 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.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride.

## SECTION 11 - TOXICOLOGICAL INFORMATION

## HYDROFLUORIC ACID (70%)

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	(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.
<b>- Skin</b>	(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.
<b>- Inhalation</b>	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.
<b>Acute toxicity (Ingestion)</b>	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.
<b>Chronic exposure effects / symptoms</b>	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.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Data not available. LD50 Dermal - Data not available.
<b>CL50 (specify species and route of entry)</b>	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: Data not available LD50 Dermal: Data not available LC50 Inhalation: >100000 ppm- 1h- Rat

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	Persistence is unlikely based on information available.
<b>Bioaccumulative potential</b>	Data not available.
<b>Mobility in soil</b>	Probable mobility due to its solubility in water.
<b>Other adverse effects</b>	Do not throw residues in the sewer.

## SECTION 13 - DISPOSAL CONSIDERATIONS

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

## SECTION 14 - TRANSPORT INFORMATION

UN Number	1790
UN Proper shipping name	ACIDE FLUORHYDRIQUE contenant au plus 60% de fluorure d'hydrogène
Transport hazard class(es)	8 Corrosive substances 6.1 Toxic substances
Packing group	II
Limited quantity index	1L
ERAP Index	1000
Special precautions	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Dermal category 3 Skin corrosion/irritation - Skin corrosion category 1
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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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