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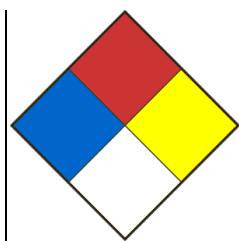
SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier MMC-30027		Product Use Laboratory use	
Chemical formula		Product code MMC-30027	Molar weight
Chemical name / Commercial name / Synonymous HYDROFLUORIC ACID, ACIDE FLUORHYDRIQUE, 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 11/22/2018	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 3 Acute toxicity - Dermal category 1 Skin corrosion/irritation - Skin corrosion category 1 Corrosive to metals-Category 1 Acute toxicity - Inhalation category 3
Signal Word	DANGER
Hazards statements (H)	H290 May be corrosive to metals. H301 Toxic if swallowed. H310 Fatal in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H331 Toxic if inhaled.
Precautionary statements (P)	P234 Keep only in original container. P260 Do not breathe dust / fume / gas / mist / vapours / spray. P262 Do not get in eyes, on skin, or on clothing. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. 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. P321 Specific treatment (see section 4 of the SDS and on this label). P330 Rinse mouth. P361 + P364 Take off immediately all contaminated clothing and wash it before reuse. P363 Wash contaminated clothing before reuse. P390 Absorb spillage to prevent material damage. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P406 Store in a corrosion resistant container / or a container with corrosion resistant liner. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. P311 Call a POISON CENTER or doctor/physician.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)



Health 3
Fire 0
Reactivity 0
Special danger OX

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide hydrofluorique	7664-39-3	4
Acide nitrique	7697-37-2	11
Eau	7732-18-5	Balance

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)	Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
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.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride. - nitrogen oxides (NOx).
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 / Personnel 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.
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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. Store away from heat and light. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. Protect from the sun's rays.
Methods of handling	Provide an emergency kit nearby. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14) Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Nitric acid	7697-37-2	TWA	2.000000 ppm 5.200000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	4.000000 ppm 10.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	2.000000 ppm	Canada. British Columbia OEL
		STEL	4.000000 ppm	Canada. British Columbia OEL
		TWAEV	2.000000 ppm 5.200000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	4.000000 ppm 10.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	2.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	4.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
Components	CAS-No.	Value	Control parameters	Basis
Hydrofluoric acid	7664-39-3	(c)	2.000000 ppm 1.600000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks				
		C	2.000000 ppm	Canada. British Columbia OEL
		TWAEV	0.500000 ppm	Canada. Ontario OELs
		CEV	2.000000 ppm	Canada. Ontario OELs
		C	3.000000 ppm 2.600000 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 0.500000 ppm 0.400000 mg/m3 Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)			
		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	0.500000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	2.000000 ppm	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 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.
Engineering control	Use mechanical exhaust or laboratory fumehood to avoid exposure.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Liquide incolore-
Odour	Donnée non disponible.
Odour threshold	Data not available
pH	<2.
Melting point / Freezing point	Data not available
Initial boiling point	Data not available
Boiling range	Data not available
Flash point	Data not available
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.
Vapour density	Data not available
Relative density	1.06g/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	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Excessive heat and contaminations of all kinds. Light sensitive. Nitric acid is yellowish in color when exposed to light. Old nitric acid inventories (10 years and older) or yellowish-colored batches have formed a nitroz compound with very explosive potential.
Incompatible material	When pure, the products react with the following products: Strong bases, concrete, carbonates, cyanides, silicone-based materials, oxidizing or reducing materials, alkali metals, organic and combustible substances, sulphides, glass, heat, moisture, sun rays and light. Nitric acid is incompatible with bases, most metals, especially alkali metals, powdered metals, metal oxides, reducing agents, organic substances, including anhydrides, alcohols, aldehydes, ketones, ethers, amines, hydrocarbons, toluene, acetonitrile, acrylonitrile, chlorobenzene, methylene chloride, etc., combustible organic materials such as paper, charcoal, wood dust, etc. and with many sulphides, nonmetallic hydrides, carbides, and acetylenides.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride. - nitrogen oxides (NOx).

SECTION 11 - TOXICOLOGICAL INFORMATION

NITRIC ACID

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and tearing. Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	May be harmful if absorbed through skin. Severe burns and tissue ulcerations.
- Inhalation	Spasms, irritation and inflammation of the nose, throat and lungs. Cough, dyspnea, cyanosis, chest pain. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall.
Chronic exposure effects / symptoms	Dental erosions have been attributed to repeated exposures. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	Inhalation: 67 ppm, 4hres, Mouse

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: 139 mg/kg - Rat LD50 Dermal: Data not available LC50 Inhalation: 587 ppm- 4h - Undefined species

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	3390
UN Proper shipping name	LIQUIDE TOXIQUE À L'INHALATION, CORROSIF, N.S.A.
Transport hazard class(es)	6.1 Toxic substances 8 Corrosive substances
Packing group	I
Limited quantity index	OL
ERAP Index	1000
Special precautions	16, 23 (Acide fluorhydrique + nitrique)

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 3 Acute toxicity - Dermal category 1 Skin corrosion/irritation - Skin corrosion category 1 Corrosive to metals-Category 1 Acute toxicity - Inhalation category 3
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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.

Last Update: 11/22/2018