



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

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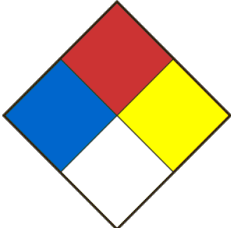
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SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier MARBLE'S REAGENT		Product Use Laboratory use	
Chemical formula -		Product code MS-0033	Molar weight
Chemical name / Commercial name / Synonymous RÉACTIF D'ATTAQUE DE MARBBLE'S, MMC-30033, #S13 MARBLES, MA-0033			
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 8/12/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Corrosive to metals-Category 1 Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 4 Specific target organ toxicity - Single exposure category 3 Skin corrosion/irritation - Skin corrosion category 1
Signal Word	DANGER
Hazards statements (H)	H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H335 May cause respiratory irritation.
Precautionary statements (P)	P234 Keep only in original container. P260 Do not breathe dust / fume / gas / mist / vapours / spray. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. 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 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. 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. 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). P330 Rinse mouth. 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.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)
	Health 3 Fire 0 Reactivity 2 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide chlorhydrique	7647-01-0	18
Sulfate cuivrique pentahydrate	7758-99-8	8
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	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	If the person is conscious, give water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
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	Non flammable.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas Sulfur oxides, Copper oxides. To our knowledge, the products of combustion and decomposition have not been fully studied.
Special fire and explosion hazards	When concentrated, the product reacts according to the following characteristics: This product can react in the presence of acetylene and form acetylides (explosive substances). Violent reactions with hydroxylamine and magnesium powder. 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. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store away from heat and light. Store away from incompatible products. Do not store in metal containers.
Methods of handling	Always open containers slowly to allow any excess pressure to vent. Avoid breathing vapors, spray mists or gases. 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
Hydrochloric acid	7647-01-0	(c)	2.000000 ppm 3.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		C	2.000000 ppm	Canada. British Columbia OEL
		C	5.000000 ppm 7.500000 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			
		(c)	2 ppm 3 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		C	2 ppm	Canada. British Columbia OEL
		C	5 ppm 7.5 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			
		C	2.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
Components	CAS-No.	Value	Control parameters	Basis
Copper sulphate (pentahydrate)	7758-99-8	No data available	TLV, TWA, STEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		No data available	TLV, TWA, STEL	Canada. British Columbia OEL
		No data available	TLV, TWA, STEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Use 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.
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 vert foncé-
Odour	Odeur suffocante..
Odour threshold	Data not available
pH	1.
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 avec l'eau en toutes proportions.
Vapour density	Data not available
Relative density	1.168g/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)	Avoid contact with incompatible materials and extreme temperatures. Avoid excessive heat and humidity.
Incompatible material	When pure, the products react with the following products: Bases, Amines, alkali metals, metals, permanganates, fluorine, metal acetylides, hexalithium disilicide. Strong oxidizing agents. Strong reducing agents (potassium, sodium, metal hydrides), acetylene, corroded steel, hydroxylamine, magnesium, fine metal powders, heat and moisture. Metallic powders, the anhydrous copper (II) sulphate reacts violently with hydroxylamine and magnesium.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas Sulfur oxides, Copper oxides. To our knowledge, the products of decomposition have not been fully studied.

SECTION 11 - TOXICOLOGICAL INFORMATION

HYDROCHLORIC ACID

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- 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	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 ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia, abdominal pain, cramps, diarrhea, melena, hematemesis, possible perforation of the esophagus and stomach, sweating, salivation.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, photophobia, lung and eye damage, chest pain, dental enamel abrasion, cough, dyspnoea, laryngitis, tracheobronchitis, headache, dizziness, fever, sweating, salivation , thirst.
DL50 (specify species and route of entry)	Oral 238-277 mg/Kg-Rat LD50 - Dermal 1449 mg/kg-Mouse
CL50 (specify species and route of entry)	LC50 - Inhalation - 3124 ppm/1 h.-Rat

COPPER(II) SULFATE (PENTAHYDRATE)

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation may result in copper deposition on cornea and opacification of ocular tissue (Wilson's disease).
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, dizziness, tearing, sweating, salivation, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Abdominal pain, kidney damage, cramps, diarrhea, headache, dizziness, sweating, salivation, nausea and vomiting, convulsions, tachycardia, hypotension, coma and can lead to death.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, kidney and lung damage, nerve disorders, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, tearing, metallic taste in the mouth, sweating, salivation, fatigue, fever loss of weight and loss of appetite, seizures, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - rat - 482 mg/kg Remarks: anhydrous. LD50 Dermal - rat -> 2,000 mg / kg Notes: Anhydrous
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: 1194 mg/kg - Rat LD50 Dermal: 7480 mg/kg - Rat - Undefined species LC50 Inhalation: 17503 ppm - 1h - Rat

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Copper(II) sulfate pentahydrate: Toxicity to fish: <i>Onchorhynchus mykiss</i> : LC50 = 0.1-2.5 mg/L/96h Toxicity to daphnia and other aquatic invertebrates: CE50 - <i>Daphnia magna</i> - 0.024 mg/l - 48 h Toxicity to bacteria: <i>Photobacterium phosphoreum</i> EC50= 1.3 mg/L/5 min as Cu++ <i>Photobacterium phosphoreum</i> : EC50 = 0.25 mg/L/30min as Cu++ Hydrochloric acid: Toxicity to fish LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 24.6 mg/l - 96 h (Hydrochloric acid) Toxicity to daphnia and other aquatic invertebrates: EC50 - <i>Daphnia magna</i> (Water flea) - 4.91 mg/l - 48 h (Hydrochloric acid)
Persistence and degradability	May persist based on information provided.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	Toxic to aquatic life with long lasting effects. The product must not contaminate groundwater.

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	3264
UN Proper shipping name	LIQUIDE INORGANIQUE CORROSIF, ACIDE, N.S.A. (acide chlorhydrique)
Transport hazard class(es)	8 Corrosive substances
Packing group	II
Limited quantity index	1L
ERAP Index	-
Special precautions	16

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Corrosive to metals-Category 1 Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Oral category 4 Specific target organ toxicity - Single exposure 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.

Last Update: 8/12/2019