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

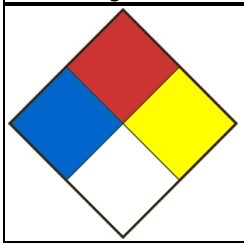
SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier TITRATION SOLVENT D5776		**Product Use** Laboratory use	
Chemical formula -		**Product code** DS-5776	**Molar weight**
Chemical name / Commercial name / Synonymous -			
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 4/16/2019	**SDS Prepared by** Laboratoire MAT	**E-Mail** labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Flammable liquids category 3 Corrosive to metals-Category 1 Serious eye damage/eye irritation - Serious eye damage category 1 Reproductive toxicity category 1B Specific Target Organ Toxicity - Single exposure category 1 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 3 Skin corrosion/irritation - Skin corrosion category 1
Signal Word	DANGER
Hazards statements (H)	H226 Flammable liquid and vapour. H290 May be corrosive to metals. H318 Causes serious eye damage. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H331 Toxic if inhaled. H360 May damage fertility or the unborn child. H370 Causes damage to organs..
Precautionary statements (P)	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P233 Keep container tightly closed. P234 Keep only in original container. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction. P390 Absorb spillage to prevent material damage. P403 + P235 Store in a well-ventilated place. Keep cool. 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. P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. 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 no eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P308 + P311 IF exposed or concerned: Call a POISON CENTER or a doctor. P308 + P313 IF exposed or concerned: Get medical advice/attention. P311 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.
	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.
PICTOGRAMS		
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)	
	**Health** 2 **Fire** 3 **Reactivity** 1 **Special danger**	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide acétique glacial	64-19-7	74
1-méthyle-2-pyrrolidinone	872-50-4	14
Métanol	67-56-1	10
Acide sulfurique	7664-93-9	1
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. 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	Yes
Ignition conditions	Heat, sparks and open flame.
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. Carbon oxides. - nitrogen oxides (NOx), Sulphur oxides
Special fire and explosion hazards	Moderate fire hazard in the presence of heat or flame. 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. Cut off all sources of ignition. Ensure a good ventilation of the premises. When handling, wear appropriate safety equipment. Use a respirator as needed. Absorb residues with vermiculite or other absorbents. Dilute residues with water, clean and rinse. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Store in a well-ventilated area. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. Keep away from sources of ignition - No smoking. Take measures to prevent the accumulation of electrostatic charges. Protect from the sun's rays.
Methods of handling	Keep away from sources of ignition - No smoking. Avoid inhalation of vapour 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

Components	CAS-No.	Value	Control parameters	Basis
Acetic acid	64-19-7	TWA	10.000000 ppm 25.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	15.000000 ppm 37.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	10.000000 ppm	Canada. British Columbia OEL
		STEL	15.000000 ppm	Canada. British Columbia OEL
		TWAEV	10.000000 ppm 25.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	15.000000 ppm 37.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	10 ppm 25 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	15 ppm 37 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	10 ppm	Canada. British Columbia OEL
		STEL	15 ppm	Canada. British Columbia OEL
		TWAEV	10 ppm 25 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	15 ppm 37 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	10.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	15.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)

Components	CAS-No.	Control parameters	Value	Basis
N-methyl-2-pyrrolidone	872-50-4	TWAEV	400.000000 mg/m3	Canada. Ontario OELs
		TWA	400.000000 mg/m3	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
		TLV, TWA, STEL	No data available	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TLV, TWA, STEL	No data available	Canada. British Columbia OEL
		TLV, TWA, STEL	No data available	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200.000000 ppm 262.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Substance may be readily absorbed through intact skin			
	STEL 250.000000 ppm 328.000000 mg/m3 Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)			

	Substance may be readily absorbed through intact skin			
		TWA	200.000000 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		STEL	250.000000 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		TWAEV	200.000000 ppm 262.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		STEV	250.000000 ppm 328.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	250.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
Components	**CAS-No.**	**Value**	**Control parameters**	**Basis**
Sulfuric acid	7664-93-9	TWA	0.2 mg/m3	Canada. British Columbia OEL
Remarks	ACGIH 'A2' applies to those substances that are considered suspected human carcinogens. IARC '1' applies to substances categorized as carcinogenic to humans, and used when there is sufficient evidence of carcinogenicity in humans.			
		TWAEV	0.2 mg/m3	Canada. Ontario OELs
		STEV	3 mg/m3	Canada. Ontario OELs
		STEL	3 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	1 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)

		TWA	1 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEL	3 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.2 mg/m3	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 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances. Keep away from open flames, hot surfaces and sources of ignition.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Heat, flames, sparks. Avoid contact with incompatible materials and extreme temperatures.
Incompatible material	When pure, the products react with the following products: Strong oxidizing agents (chromic acid, nitric acid, peroxides, chlorates and perchlorates), bases, alcohols, carbonates, hydroxides, oxides, phosphates, 5-azidotetrazole, bromine pentafluoride, chromium trioxide, hydrogen peroxide, potassium permanganate, sodium peroxide, phosphorus trichloride, heat and moisture. Water, metals, alcohols, reducing agents, bases, organic and combustible materials, azides, bromates, carbides, chlorates, chromates, cyanides, ferrocyanides, fulminates, glycerides, halides, nitrates, nitrites, permanganates, perchlorates, picrates, sulphides, hydrogen peroxide, nitromethane, phosphorus, heat and moisture. Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), reducing agents (potassium, sodium, metal hydrides), heat and moisture. Acids, Oxidants, Acid Chlorides, Acid Anhydrides, Alkali Metals, Reducing Agents.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides. - nitrogen oxides (NOx). - Sulphur oxides. To our knowledge, the products of decomposition have not been fully studied.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACETIC ACID, GLACIAL

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. 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 ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia, kidney damage, bloody diarrhea and vomiting, diaphoresis, intense thirst, shock, circulatory collapse, unconsciousness, coma and can lead to death.
Chronic exposure effects / symptoms	Burning sensation, conjunctivitis, hyperkeratosis, nervous disorders, chest pain, dental erosion, cough, dyspnea, laryngitis, headache, dizziness, diarrhea, asthenia, irritability, weight loss and loss of appetite, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 3,530 mg/kg. LD50 Dermal - Rabbit - 1060 mg/kg
CL50 (specify species and route of entry)	LC50 Inhalation - Rat -4h - 11.4 mg/L (4400 ppm - 4 h) LC50 Inhalation - Mouse- 1hre - 5620 ppm

METHANOL

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	May cause eye irritation.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Narcotic effects, chest pain, cough, dyspnea, headache, dizziness, watery eyes, paresthesia, nystagmus, drowsiness, confusion, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Narcotic effects, liver, kidney and eye damage, abdominal pain, cramps, diarrhea, headache, dizziness, paresthesia, nystagmus, drowsiness, incoordination, acidosis, nausea and vomiting, seizures, hypotension, respiratory collapse, loss of consciousness , coma and can lead to death. Acute absorption of methanol can cause blindness. Damage to: liver, kidneys, eyes, heart, central nervous system.
Chronic exposure effects / symptoms	Headache, dizziness, nausea, visual disturbances, decreased visual acuity, liver and kidney damage.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1187 mg/kg LD50 Dermal - Lapin-15840 mg/kg
CL50 (specify species and route of entry)	LC50 Inhalation - Rat: 64000 ppm/4 h. LC50 Inhalation - Rat 115.9-130.7mg/L air / 4h.

1-METHYLE-2-PYRROLIDONE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and may cause inflammation of the conjunctiva.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, cough, dyspnea, headache, dizziness, drowsiness, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Gastrointestinal disorders, cramps, diarrhea, headache, dizziness, drowsiness, seizures, nausea and vomiting.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, nervous disorders, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, drowsiness, asthenia, weight loss and loss of appetite, nausea and vomiting. Prolonged exposure may cause reproductive abnormalities in humans.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 3914 mg/kg. LD50 Dermal - Rabbit - >5000mg/kg
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 5.1 mg/L.

SULFURIC ACID

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe burns and corrosion of ocular tissue that may lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations. 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 ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia, kidney damage, abdominal pain, cramps, diarrhea, melena, hematemesis, anuria, possible perforation of the esophagus and stomach, convulsions, salivation, stupor, circulatory collapse, unconsciousness, coma and can lead to death .
Chronic exposure effects / symptoms	Burning sensation, dermatitis and dyschromia, conjunctivitis, lung and eye damage, chest pain, digestive disorders, tooth abrasion, cough, dyspnea, laryngitis, emphysema, tracheobronchitis, headache, dizziness, fever, salivation tremors, paleness, muscle weakness, weight loss and loss of appetite, seizures, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2,140 mg/kg LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 Inhalation - Mouse - 4h - 850 mg/m3

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: 2869 mg/kg - Rat LD50 Dermal: 1370 mg/kg - Rabbit LC50 Inhalation: 10.1 mg/L- 4h - Undefined species

SECTION 12 - ECOLOGICAL INFORMATION

Available ecological information	No

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	3286
UN Proper shipping name	LIQUIDE INFLAMMABLE, TOXIQUE, CORROSIF, N.S.A.
Transport hazard class(es)	3 Flammable liquids 6.1 Toxic substances 8 Corrosive substances
Packing group	II
Limited quantity index	1L
ERAP Index	-
Special precautions	16 (Méthanol, acide acétique, acide sulfurique)

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Flammable liquids category 3 Corrosive to metals-Category 1 Serious eye damage/eye irritation - Serious eye damage category 1 Reproductive toxicity category 1B Specific Target Organ Toxicity - Single exposure category 1 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 3 Skin corrosion/irritation - Skin corrosion category 1

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: 4/16/2019