



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

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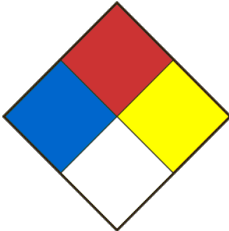
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier FINGERPRINTS SOLUTION (DFO)		Product Use Laboratory use	
Chemical formula -		Product code ED-2000	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 12/11/2019	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 Specific Target Organ Toxicity - Single exposure category 1 Skin corrosion/irritation - Skin corrosion category 1	
Signal Word	DANGER	
Hazards statements (H)	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H370 Causes damage to organs..	
Precautionary statements (P)	P260 Do not breathe 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. P280 Wear protective gloves/protective clothing/eye protection/face protection. 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. P308 + P311 IF exposed or concerned: Call a POISON CENTER or a doctor. P310 Immediately call a POISON CENTER or doctor/physician. P321 Specific treatment (see section 4 of the SDS and on this label). 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.	
PICTOGRAMS		
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)	
	Health 2 Fire 1 Reactivity 0 Special danger	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Methyl nonafluorobutyl ether	163702-07-6	43
Methyl nonafluoroisobutyl ether	163702-08-7	43
Trans-1,2-dichloroéthylène	156-60-5	11
Méthanol	67-56-1	2
Acide acétique glacial	64-19-7	1
1,8-diazafluoren-9-one (DFO)	54078-29-4	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	Wash skin with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.
Inhalation	If breathing is difficult, give oxygen. If breathed in, move person into fresh air. 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	No
Ignition conditions	Not flammable or combustible.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Do not use a heavy water stream.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride. - Hydrogen chloride gas Carbon oxides. Perfluoroisobutylene.
Special fire and explosion hazards	Emits particularly dangerous gases when heated. 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 / Personal 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. Avoid breathing vapours, mist or gas. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Keep container tightly closed and store away from heat, air, moisture and incompatible products. Store in a well-ventilated area. Protect from light. Protect from frost, heat and sunlight.
Methods of handling	Bottle in glass or plastic containers. Ensure adequate ventilation. 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.	Control	Value	Basis
MÉTHYL NONAFLUOROBUTYL ETHER	163702-07-6	TWA	750ppm	AIHA

Components	CAS-No.	Control	Value	Basis
MÉTHYL NONAFLUOROISOBUTYL ETHER	163702-08-7	TWA	750ppm	AIHA

Components	CAS-No.	Control	Value	Basis
Trans-1,2-Dichloroéthylène	156-60-5	TWA	200ppm 793mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	200ppm	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
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	Québec.

			37.000000 ' ' mg/m3	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	Value	Basis

1,8-DIAZAFLUORENE-9-ONE (DFO)	54078-29-4	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

Data source	3M. NIH: National institute of health (U.S. National Library of Medicine) Sigma-Aldrich.
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. 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 jaune translucide.
Odour	Donnée non disponible.
Odour threshold	Data not available
pH	Non applicable.
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	Pratiquement insoluble dans l'eau.
Vapour density	Data not available
Relative density	1.16g/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. If heated strongly, it emits toxic fumes.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Moisture, sunlight and extreme temperatures.
Incompatible material	Strong acids, Strong bases, Strong oxidizers.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas - Gaseous hydrogen fluoride. Perfluoroisobutylene. Carbon monoxide (CO), Carbon dioxide (CO ₂)

SECTION 11 - TOXICOLOGICAL INFORMATION

METHYL NONAFLUOROBUTYL ETHER

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	May cause eye irritation. To our knowledge, the product has not been fully studied.
- Skin	May cause skin irritation. To our knowledge, the product has not been fully studied.
- Inhalation	May cause respiratory tract irritation. To our knowledge, the product has not been fully studied.
Acute toxicity (Ingestion)	No known health effects. To our knowledge, the product has not been fully studied.
Chronic exposure effects / symptoms	No known health effects. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - > 5000 mg/kg LD50 Dermal - > 5000 mg/kg Undefined species.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - >1000 mg/L.

METHYL NONAFLUOROISOBUTYL ETHER

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and tearing.
- Skin	May cause skin irritation. To our knowledge, the product has not been fully studied.
- Inhalation	May cause coughing or wheezing.
Acute toxicity (Ingestion)	There may be soreness and redness of the mouth and throat.
Chronic exposure effects / symptoms	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - > 5000 mg/kg LD50 Dermal - > 5000 mg/kg Undefined species.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - >1000 mg/L.

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.

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

1,8-DIAZAFLUORENE-9-ONE (DFO)

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	To our knowledge, the product has not been fully studied.
- Skin	To our knowledge, the product has not been fully studied.
- Inhalation	To our knowledge, the product has not been fully studied.
Acute toxicity (Ingestion)	To our knowledge, the product has not been fully studied.
Chronic exposure effects / symptoms	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)	LC50 - Inhalation - Data not available.

1,2-DICHLOROETHYLENE (TRANS)

Routes of exposure	Inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	May cause eye irritation.
- Skin	May cause skin irritation.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Dizziness, headache, cough, nausea and vomiting. Fatigue. Central nervous system depression. Narcosis (severe intoxication).
Acute toxicity (Ingestion)	No known health effects. To our knowledge, the product has not been fully studied.
Chronic exposure effects / symptoms	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 7900 mg/kg. LD50 Dermal - Rabbit - 5000mg / kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 95.6mg/L

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: 4850 mg/kg - Rat LD50 Dermal: 4823 mg/kg - Undefined species LC50 Inhalation: 309 mg/L - 4h - Rat

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	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	Serious eye damage/eye irritation - Serious eye damage category 1 Specific Target Organ Toxicity - Single exposure category 1 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: 12/11/2019