



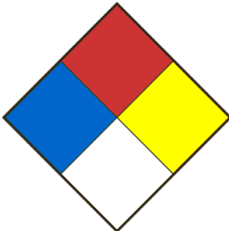
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SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier DIMETHYL SULFOXYDE		Product Use Laboratory use	
Chemical formula (CH ₃) ₂ SO		Product code DR-0139; R-0939 DR-0129 DH-0105	Molar weight 78,13
Chemical name / Commercial name / Synonymous DMSO, METHYL SULFOXIDE, SULFINYLBIS(METHANE), DELTAN, DEMASORB, DOMOSO, DROMISOL, KEMSOL, SCLEROSOL, SYNTEXAN			
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 11/23/2018	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Liquides inflammables category 4
Signal Word	WARNING
Hazards statements (H)	H227 Combustible liquid.
Precautionary statements (P)	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P280 Wear protective gloves/protective clothing/eye protection/face protection. P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P403 Store in a well-ventilated place.
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 (%)
Diméthyle sulfoxyde	67-68-5	<=100

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	Yes
Ignition conditions	Flammable in the presence of a source of ignition when the temperature is above the flash point. No smoking.
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, Sulphur oxides.
Special fire and explosion hazards	Violent exothermic reaction with the mixture: copper + trichloroacetic acid. Instant ignition when mixed with potassium permanganate. Violent reactions with halogenated acids, periodic and perchloric acids, silver fluoride, nitrogen periodate, diborane, iodine pentafluoride, magnesium perchlorate, methyl bromide, trichloride and trioxide phosphorus, silicon tetrachloride, sodium hydride and thionyl chloride. 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	Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. When handling, wear appropriate safety equipment. Use a respirator as needed. Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Dispose of residues in a container provided for the disposal of hazardous materials.
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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, moisture, and incompatible products. Protect from the sun's rays. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic.
Methods of handling	Since its melting point is close to room temperature, it may be necessary to heat the product before it can be used. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Value	Control Citric acid	
DIMETHYL SULFOXYDE	67-68-5	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

Ventilation	Use 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	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 incolore-
Odour	Inodore.
Odour threshold	Data not available
pH	Donnée non disponible.
Melting point / Freezing point	18.4°C
Initial boiling point	189°C
Boiling range	Data not available
Flash point	87°C
Evaporation rate	Data not available
Flammability	Yes
Lower flammable / Explosive limit	2.6%
Upper flammable / Explosive limit	42%
Vapour pressure	0.55 mbar @ 20°C-
Vapour density	Data not available
Relative density	1.101g/cm ³
Solubility	Miscible avec l'eau, l'acétone, le benzène, le chloroforme, l'éthanol et l'éther.
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	301°C
Decomposition temperature	>190°C
Viscosity	1.98 mPa.s @ 25°C-

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)	Heat, flames, sparks. This product quickly absorbs moisture from the air. Avoid the accumulation of static electricity.
Incompatible material	Strong oxidizing agents, heat and moisture. Strong acids. Strong bases. Alkali metals. Strong reducing agents. The acid halides.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

DIMETHYL SULFOXYDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and may result in opacity of the cornea.
- Skin	Irritation and may cause an allergic and inflammatory reaction of the skin.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, respiratory allergy, cough, dyspnea, headache, dizziness, drowsiness, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Gastrointestinal disorders, cramps, diarrhea, headache, dizziness, convulsions, nausea and vomiting.
Chronic exposure effects / symptoms	Burning sensation, respiratory and skin allergies, nervous disorders, chest pain, cough, dyspnea, laryngitis, headache, dizziness, drowsiness, irritability, erythema, weight loss and loss of appetite, nausea and vomiting. Prolonged exposure to this product may cause reproductive abnormalities in humans.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 14500 mg/kg LD50 Dermal - Rat - 40000mg/kg
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 5.33 mg/L

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h Method: OECD Guideline 202. Toxicity to algae. EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h Method: OECD Test Guideline 201
Persistence and degradability	Method: OECD Test Guideline 301D. Biodegradability Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable.
Bioaccumulative potential	Data not available.
Mobility in soil	Data not available.
Other adverse effects	Data not available.

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	Liquides inflammables category 4
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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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