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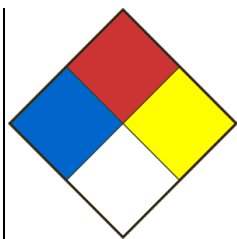
## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier CARBON DISULFIDE (LOW IN HYDROCARBONS)		Product Use Laboratory use	
Chemical formula CS <sub>2</sub>		Product code CF-0828 ; CR-0123; CH-0100	Molar weight 76,14
Chemical name / Commercial name / Synonymous Carbon disulphide, Carbon bisulfide; Dithiocarbonic anhydride; Sulphocarbonic anhydride			
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 12/20/2018	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	<p>Flammable liquids category 2</p> <p>Skin corrosion/irritation - Skin irritation category 2</p> <p>Serious eye damage/ Eye irritation category 2A</p> <p>Reproductive toxicity category 2</p> <p>Specific Target Organ Toxicity - Repeated exposure category 1</p> <p>Acute toxicity - Inhalation category 4</p>
<b>Signal Word</b>	<p>DANGER</p>
<b>Hazards statements (H)</b>	<p>H225 Highly flammable liquid and vapour.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H361 Suspected of damaging fertility or the unborn child.</p> <p>H372 Causes damage to organs through prolonged or repeated exposure.</p> <p>H332 Harmful if inhaled.</p>
<b>Precautionary statements (P)</b>	<p>P201 Obtain special instructions before use.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.</p> <p>P233 Keep container tightly closed.</p> <p>P240 Ground/bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical/ventilating/lighting equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</p> <p>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P264 Wash the areas of the body that have been in contact with the product after handling.</p> <p>P270 Do no eat, drink or smoke when using this product.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308 + P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P332 + P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/attention.</p> <p>P362 + P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction.</p> <p>P403 + P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.</p> <p>P261 Avoid breathing dust / fume / gas / mist / vapours / spray.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p>
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	<p>NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)</p>



Health 2  
 Fire 3  
 Reactivity 0  
 Special danger

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Carbon disulfide	75-15-0	<=100

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	If breathed in, move person into fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	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.
<b>Most important symptoms and effects (acute and delayed)</b>	Ref. section 11.
<b>Immediate medical attention and special treatment, if necessary</b>	In case of medical consultation, keep this sheet available.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	Yes
<b>Ignition conditions</b>	Heat, sparks and open flame. Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Do not use a jet of water.
<b>Dangerous fumes - combustion</b>	Carbon oxides.
<b>Hazardous combustion / decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides.
<b>Special fire and explosion hazards</b>	The return flame distance can be considerable. Vapors may form explosive mixtures with air. Risk of explosion under the effect of heat. May react violently with incompatible products (Ref Section 10).
<b>Special protective equipment and precautions for firefighters</b>	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

<b>Methods and materials for containment and cleaning up / Personal precautions, protective equipment</b>	Evacuate personnel to safe areas. Cut off all sources of ignition. 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. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Do not let product enter drains.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Store in a cool, dry place. Protect from the sun's rays. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. Use venting and electrical equipment that is grounded and does not produce ignition sources (sparks). Refrigerate before opening.
<b>Methods of handling</b>	Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist. Use explosion-proof equipment. 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 parameters	Basis
Carbon disulphide	75-15-0	TWA	4.000000 ppm	Canada. British Columbia OEL
Remarks	Contributes significantly to the overall exposure by the skin route.			
		STEL	12.000000 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		TWAEV	1.000000 ppm	Canada. Ontario OELs
	Skin			
		TWA	1.000000 ppm 3.100000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin			
		TWAEV	4 ppm 12 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWAEV	4.000000 ppm 12.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		STEV	12 ppm 36 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		STEV	12.000000 ppm 36.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	31.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Skin contact does contribute to exposure. Not classifiable as a human carcinogen			
		TWA	1.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1 ppm	USA. ACGIH Threshold Limit Values (TLV)

<b>Data source</b>	Sigma-Aldrich (Millipore Sigma)
<b>Ventilation</b>	Fan.
<b>Respiratory</b>	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.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat. Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	Use mechanical exhaust or laboratory fumehood to avoid exposure.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Liquide incolore-
Odour	Chou pourri.
Odour threshold	0.1 ppm
pH	7.0 (neutre).
Melting point / Freezing point	-112 à -111°C
Initial boiling point	46°C
Boiling range	Data not available
Flash point	-33°C
Evaporation rate	22.6 (Butyl Acetate = 1.0)-
Flammability	Yes
Lower flammable / Explosive limit	1.3% v/v
Upper flammable / Explosive limit	50% v/v
Vapour pressure	297.5 mmHg @ 20 °C-
Vapour density	2.67 (Air=1)-
Relative density	1.262g/ml
Solubility	Très peu miscible dans l'eau (0.294%). Miscible avec l'alcool, le benzène, le chloroforme et l'éther.
Partition coefficient water/n-octanol	0.0057-
Auto-ignition temperature	90-100°C
Decomposition temperature	Data not available
Viscosity	0.363 cps @ 20 deg CcSt

## SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Stable under recommended storage conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapours may form explosive mixture with air.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Heat, flames and sparks. Avoid the accumulation of static electricity.
Incompatible material	Les agents oxydants forts (acide nitrique, acide perchlorique, les peroxydes, les chlorates et les perchlorates), les bases, les amines, les azotures, les imines, les oxydes d'azote, les oxydes métalliques, l'aluminium, le chlore, le fluor, le potassium, le sodium, le zinc, l'air, la chaleur et l'humidité. Alkali metals. Copper. Butyl rubber.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of carbon monoxide and dioxide. - Sulphur oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

## CARBON DISULFIDE (LOW IN HYDROCARBONS)

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Severe irritation and may result in inflammation of the conjunctiva.
<b>- Skin</b>	Irritation and dermatitis. May cause numbness and degeneration of nerve fibers.
<b>- Inhalation</b>	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, nausea and vomiting, dizziness, drowsiness, asthenia, hyporeflexia, convulsions, respiratory collapse, unconsciousness, coma and can lead to death.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Gastrointestinal disorders, liver and kidney damage, cramps, diarrhea, headache, nausea and vomiting, dizziness, tremors, convulsions, cyanosis, respiratory collapse, coma and death.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, kidney, lung and heart damage, visual and auditory disturbances, chest pain, cough, dyspnea, laryngitis, headache, dizziness, drowsiness, anorexia, insomnia, confusion, hallucination, irritability, asthenia, paresthesia, nystagmus, erythema, weight loss and loss of appetite, nausea and vomiting. Prolonged exposure may cause reproductive abnormalities in humans.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 1,200 mg/kg LD50 Oral - Mouse - 2,780 mg/kg LD50 Oral - Rabbit - 2,550 mg/kg LD50 Oral - Guinea pig - 2,125 mg/kg.
<b>CL50 (specify species and route of entry)</b>	LC50 Inhalation - Rat - 2 h - 25 mg/l.

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Toxicity to fish: LC50 - Other fish: 162 mg/l - 96 h. Toxicity to algae: Growth inhibition EC50 - <i>Chlorella pyrenoidosa</i> - 21 mg/l - 96 h
<b>Persistence and degradability</b>	Data not available.
<b>Bioaccumulative potential</b>	Data not available.
<b>Mobility in soil</b>	Data not available.
<b>Other adverse effects</b>	Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal Method</b>	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
<b>Contaminated Packaging</b>	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

<b>UN Number</b>	1131
<b>UN Proper shipping name</b>	DISULFURE DE CARBONE
<b>Transport hazard class(es)</b>	3 Flammable liquids 6.1 Toxic substances
<b>Packing group</b>	I
<b>Limited quantity index</b>	0L
<b>ERAP Index</b>	1000
<b>Special precautions</b>	-

## SECTION 15 - REGULATORY INFORMATION

<b>WHIMS CANADA</b>	Flammable liquids category 2 Skin corrosion/irritation - Skin irritation category 2 Serious eye damage/ Eye irritation category 2A Reproductive toxicity category 2 Specific Target Organ Toxicity - Repeated exposure category 1 Acute toxicity - Inhalation 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.

Last Update: 12/20/2018