



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

Tél. (Qc): (418) 660-8666 / 800-890-8666

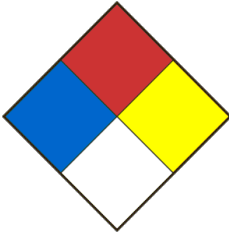
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SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier D-LIMONENE		Product Use Laboratory use	
Chemical formula C ₁₀ H ₁₆		Product code LP-0109	Molar weight 136,24
Chemical name / Commercial name / Synonymous D-LIMONENE, (R)-(+)-LIMONÈNE, D-(+)-LIMONENE, (+)-4-ISOPROPENYL-1-METHYLCYCLOHEXENE, d-p-MENTHA-1,8-DIENE, (R)-1-METHYL-4-(1-METHYL-ETHENYL)-CYCLOHEXENE			
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 10/28/2022	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Skin corrosion/irritation - Skin irritation category 2 Flammable liquids category 3 Aspiration hazard category 1 Respiratory or skin sensitization - Skin sensitize category 1	
Signal Word	DANGER	
Hazards statements (H)	H226 Flammable liquid and vapor. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction.	
Precautionary statements (P)	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P233 Keep container tightly closed. 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. P261 Avoid breathing dust / fume / gas / mist / vapors / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P321 Specific treatment (see section 4 of the SDS and on this label). P331 Do NOT induce vomiting. P332 + P313 If skin irritation occurs: Get medical advice/attention. P333 + P313 If skin irritation or rash occurs: Get medical advice/attention. P362 + P364 Take off contaminated clothing and wash it before reuse. P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction. P403 + P235 Store in a well-ventilated place. Keep cool. 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 2 Reactivity 0 Special danger	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
D-limonène	5989-27-5	<=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	Do NOT induce vomiting. If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Main symptoms of high exposure: Skin sensitizer. Skin, eye and respiratory system irritation. Breathing difficulties. Nausea and vomiting. 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	Do not use a jet full water; this can cause splashing and spread the fire.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: Carbon oxides.
Special fire and explosion hazards	May react violently with incompatible products (Ref Section 10). Steam can travel a great distance and ignite on sources of ignition such as heaters, electrical appliances, cigarettes, sparks, etc. Violent reactions to contact with the iodine pentafluoride mixture - tetrafluoroethylene. Vapors may form explosive mixtures with air. Containers may explode when heated. Do not allow run-off from fire fighting to enter drains or water courses.
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. Remove 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 vapors, mist or gas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Protect from the sun's rays. Keep container tightly closed and store away from incompatible products, heat, sparks, and open flame.
Methods of handling	Avoid contact with the skin, eyes and clothes. Avoid ingestion and inhalation. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Do not use tools that produce sparks. 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
D-LIMONENE	5989-27-5	TWA	20.000000 ppm 111.0000000 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
remarks	The occupational exposure limit is based on the effects of irritation and its adjustment to compensate for unusual work time schedules is not necessary			
		TWA	20.0000000 ppm	Canada. British Columbia OEL
	Sensitizing : A critical awareness effect.			

Data source	Sigma-Aldrich.
Ventilation	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	Use 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	Translucide, clair à jaune pâle.
Odour	Agrume.
Odour threshold	Data not available
pH	Donnée non disponible..
Melting point / Freezing point	-74.3°C
Initial boiling point	175.5-176°C
Boiling range	Data not available
Flash point	48°C
Evaporation rate	Data not available
Flammability	Yes
Lower flammable / Explosive limit	0.7%
Upper flammable / Explosive limit	6.1%
Vapour pressure	<3.0 mm @ 14.4°CmmHg
Vapour density	7.1 (Air=1).
Relative density	0.838g/cm ³
Solubility	Insoluble dans l'eau. Miscible avec l'alcool.
Partition coefficient water/n-octanol	log Pow : 4.2-
Auto-ignition temperature	255°C
Decomposition temperature	Data not available
Viscosity	0.844 mPas à 25°C.cSt

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	May react violently with incompatible substances. Flammable product, may ignite with source of ignition, if temperature above flash point.
Chemical stability	May decompose on exposure to air and moisture. Sensitive to light.
Possibility of hazardous reactions	May react violently with incompatible substances. Liquid floating on the water can move to a source of ignition and spread a fire.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid excessive heat. Heat, flames and sparks. This product oxidizes slowly in the air.
Incompatible material	Strong oxidizing agents. Acids. Violent reactions in contact with the following products: With (iodine pentafluoride + tetrafluoroethylene). With dry hydrogen chloride or hydrogen bromide, it forms monohalides. With aqueous hydrogen chloride or hydrogen bromide, it forms the dihalide.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of carbon monoxide and dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

D-LIMONENE

Routes of exposure	Ingestion, inhalation, skin contact.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and tearing.
- Skin	Irritation. May cause an allergic reaction of the skin characterized mainly by erythematous lesions. May be harmful if absorbed through skin.
- Inhalation	Irritation of the mucous membranes and respiratory tract. May be harmful if inhaled.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Abdominal pain, cramps, diarrhea, headache, dizziness, sweating, salivation, convulsions, nausea and vomiting. May be harmful if swallowed. Aspiration hazard if swallowed - may enter the lungs and cause lesions.
Chronic exposure effects / symptoms	Group 3: unclassifiable agent for its carcinogenicity (Group 3 IARC). Burning sensation, nervous disorders, skin allergy, chest pain, cough, dyspnoea, headache, dizziness, confusion, irritability, watery, erythema, fatigue, weight loss and loss of appetite, nausea and vomiting. Repeated dose toxicity - Mice - male and female - Dose without toxic effect observed - 1,650 mg/kg - Lowest dose with observed toxic effect - 3,300 mg/kg .
DL50 (specify species and route of entry)	LD50 Oral - Rat - 4400 mg/kg. LD50 Dermal - Rabbit - >5000 mg/kg
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	LC50 - Pimephales promelas (fathead minnow) - 0.72 mg/L - 96 h - dynamic test.. LC50 - Oncorhynchus mykiss (rainbow trout) - 0.35 mg/l - 96 h EC50 - Daphnia magna (Water flea) - 0.36 mg/L - 48 h - immobilization. CE50- activated sludge 3.94 mg/L
Persistence and degradability	Biodegradability Result: 71% - Easily biodegradable.
Bioaccumulative potential	Data not available.
Mobility in soil	Data not available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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	2052
UN Proper shipping name	DIPENTENE
Transport hazard class(es)	3 Flammable liquids
Packing group	III
Limited quantity index	5L
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Skin corrosion/irritation - Skin irritation category 2 Flammable liquids category 3 Aspiration hazard category 1 Respiratory or skin sensitization - Skin sensitize 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: 10/28/2022