

#### Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015) Issue date: 06/25/2024 Version: 1.0

#### **SECTION 1: Identification Product identifier** 1.1. Product form : Mixture Product name : OIL, LEMON\* CAS-No. : N/A : 91-1037-85 Product code Product group : Trade product Recommended use and restrictions on use 1.2. 1.3. Supplier The Lebermuth Company 4004 Technology Drive 46628 South Bend, IN - United States T 574-259-7000 - F 574-258-7450 info@lebermuth.com - www.lebermuth.com **Emergency telephone number** 1.4. Emergency number CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300 CCN 13010 SECTION 2: Hazard identification Classification of the substance or mixture 2.1. **Classification (GHS CA)** Flammable liquids H226 Category 3 Skin corrosion/irritation H315 Category 2 Skin sensitization, H317 Category 1 Reproductive toxicity H361 Category 2 H373 Specific target organ toxicity (repeated exposure) Category 2 Full text of H statements : see section 16 2.2. **GHS Label elements, including precautionary statements GHS CA labeling** Hazard pictograms (GHS CA) : Signal word (GHS CA) : Warning : H226 - Flammable liquid and vapor Hazard statements (GHS CA) H315 - Causes skin irritation H317 - May cause an allergic skin reaction H361 - Suspected of damaging fertility or the unborn child H373 - May cause damage to organs through prolonged or repeated exposure Precautionary statements (GHS CA) : P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 action to prevent static discharges. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

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P264 - Wash hands, forearms and face thoroughly after handling.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .

P308+P313 - IF exposed or concerned: Get medical advice/attention.

P314 - Get medical advice/attention if you feel unwell.

P321 - Specific treatment (see supplemental first aid instruction on this label).

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 media other than water to extinguish.
- P403+P235 Store in a well-ventilated place. Keep cool
- P405 Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS CA)

No data available

#### **SECTION 3: Composition/Information on ingredients**

3.1. Substances

#### Not applicable

#### 3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
D-LIMONENE	(+)-1-methyl-4-isopropenyl-1- cyclohexene / (+)-4-isopropenyl-1- methylcyclohexene / (+)-cajeputene / (+)-carvene / (+)-citrene / (+)-para- mentha-1,8-diene / (+)-p-mentha- 1,8-diene / (+)-R-limonene / (R)-(+)- 4-isopropenyl-1-methyl-1- cyclohexene / (R)-(+)-limonene / (R)- 1-methyl-4-(1- methylethenyl)cyclohexene / (R)-4- isopropenyl-1-methyl-1-cyclohexene / (R)-p-mentha-1,8-diene / 1,8- menthadiene, D- / 1-methyl-4-(1- methylethenyl)cyclohexene, (R)- / 20000000233 / cyclohexene, 1- methylethenyl)cyclohexene, (R)- / 20000000233 / cyclohexene, 1- methylethenyl)-, (R)- / cyclohexene, 1-methyl-4-(1- methylethenyl)-, (theta)- / cyclohexene, 4-isopropenyl-1- methylethenyl)-, (theta)- / cyclohexene, 4-isopropenyl-1- methyl-1, D-(+)-limonene / dextro- limonene / dextro-para-mentha- 1,8-diene / D-p-mentha-1,8-diene / limonene, (R)-(+) - / para-mentha- 1,8-diene, (R)-(+) - / para-mentha- 1,8-diene, (R)-(+) - / p-mentha-1,8- diene, (R)-(+) - / p-mentha	(CAS-No.) 5989-27-5	25 – 50	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
CITRAL		(CAS-No.) 5392-40-5	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT RE 2, H373
TERPINEOL		(CAS-No.) 8000-41-7	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
ALPHA-TERPINENE		(CAS-No.) 99-86-5	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 Skin Sens. 1, H317 Asp. Tox. 1, H304

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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
P-CYMENE	1-isopropyl-4-methylbenzene / 1- methyl-4-(1-methylethyl)benzene / 1- methyl-4-isopropylbenzene / 2-para- tolylpropane / 2-p-tolylpropane / 4- cymene / 4-isopropyl-1- methylbenzene / 4-isopropyltoluene / 4-methylisopropylbenzene / benzene, 1-isopropyl-4-methyl- / benzene, 1-methyl-4-(1-methylethyl)- / camphogen / cumene, para-methyl- / cumene, p-methyl- / cymene / cymol / dolcymene / HERCULES para-cymene / isopropyltoluene / isopropyltoluol / methylisopropylbenzene / paracymol / para-cymol / para- isopropylmethylbenzene / paracymol / para-cymol / para- isopropyltoluene / para- methylisopropyl benzene / para- methylisopropyl benzene / para- methylisopropyl benzene / p- sopropylmethylbenzene / p- isopropylmethylbenzene / p- methylisopropyl benzene / p-	(CAS-No.) 99-87-6	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:vapor), H331 Repr. 2, H361 Asp. Tox. 1, H304
GAMMA-TERPINENE		(CAS-No.) 99-85-4	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures		
4.1. Description of first aid measures		
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.	
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.	
First-aid measures after eye contact	: Rinse eyes with water as a precaution.	
First-aid measures after ingestion	Call a poison center/doctor/physician if you feel unwell.	
First-aid measures general	: IF exposed or concerned: Get medical advice/attention.	
4.2. Most important symptoms and eff	ects (acute and delayed)	
Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.	
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.	
Symptoms/effects after eye contact	: None under normal conditions.	
Symptoms/effects after ingestion	: None under normal conditions.	
4.3. Immediate medical attention and s	pecial treatment, if necessary	

SECT	ION 5: Fire-fighting measures	
5.1.	Suitable extinguishing media	
Suitable	e extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2.	Unsuitable extinguishing media	
Unsuita	ble extinguishing media	: Do not use a heavy water stream.
5.3.	Specific hazards arising from the	nazardous product
Fire ha	zard	: Flammable liquid and vapor.
Explosi	on hazard	: No direct explosion hazard.
5.4.	Special protective equipment and	precautions for fire-fighters
Firefigh	ting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protect	ion during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures		
6.1. Personal precautions, protective equipment and emergency procedures		
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.	
6.2. Methods and materials for conta	ainment and cleaning up	
For containment	<ul> <li>Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.</li> </ul>	
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.	
Other information	: Dispose of materials or solid residues at an authorized site.	
6.3. Reference to other sections		
For further information refer to section 8: "Ex	kposure controls/personal protection"	

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	Not expected to present a significant hazard under anticipated conditions of normal use.
7.2. Conditions for safe storage, including	any incompatibilities
Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Packaging materials	: Store always product in container of same material as original container.

#### **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

CITRAL (5392-40-5)		
USA - ACGIH	ACGIH OEL TWA	5 ppm (IFV - Inhalable fraction and vapor)
USA - ACGIH	Remark (ACGIH)	TLV® Basis: Body weight eff; URT irr; eye dam. Notations: Skin; DSEN; A4 (Not classifiable as a Human Carcinogen)
USA - ACGIH	Regulatory reference	ACGIH 2024
8.2. Appropriate e	engineering controls	

Appropriate engineering controls

: Ensure good ventilation of the work station.

: Avoid release to the environment.

Environmental exposure controls

Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

8.3.

Protective gloves

Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

**Respiratory protection:** 

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

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SECTION 9: Physical and chemical properties			
9.1. Information on basic physical and o	9.1. Information on basic physical and chemical properties		
Physical state	: Liquid		
Appearance	: No data available		
Color	: COLORLESS		
Odor	: CHARACTERISTIC, MATCHING RETAINER SAMPLE		
Odor threshold	: No data available		
pH	: No data available		
Relative evaporation rate (butyl acetate=1)	: No data available		
Relative evaporation rate (ether=1)	: No data available		
Melting point	: Not applicable		
Freezing point	: No data available		
Boiling point	: No data available		
Flash point	: 53 °C		
Auto-ignition temperature	: No data available		
Decomposition temperature	: No data available		
Flammability	: Not applicable		
Vapor pressure	: No data available		
Vapor pressure at 50°C	: No data available		
Relative density	: 0.91 (0.9 – 0.92)		
Solubility	: Insoluble.		
Partition coefficient n-octanol/water (Log Pow)	: No data available		
Explosion limits	: No data available		
9.2. Other information			
Refractive index	: 1.46 (1.45 – 1.47)		

<b>SECTION 10: Stability and react</b>	ivity
10.1. Reactivity	
Reactivity	: Flammable liquid and vapor.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

on toxicological effects					
: No	ot classified				
: No	ot classified				
on) : No	ot classified				
	: No	: Not classified	: Not classified	: Not classified	: Not classified

TERPINEOL P.G. (8000-41-7)	
LD50 oral	4300 mg/kg body weight
ATE CA (oral)	4300 mg/kg body weight
citral (5392-40-5)	
LD50 oral rat	≈ 6800 mg/kg body weight Animal: rat
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Remarks on results: other:
p-Mentha-1,4-diene (99-85-4)	
LD50 oral	3650 mg/kg body weight
ATE CA (oral)	3650 mg/kg body weight

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p-Mentha-1,3-diene (99-86-5)	
LD50 oral	1680 mg/kg body weight
ATE CA (oral)	1680 mg/kg body weight
d-Limonene (5989-27-5)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Ra Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Read-across, Dermal, 7 day(s))
p-Cymene (99-87-6)	
LD50 oral rat	4750 mg/kg (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	4750 mg/kg body weight
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 9.7 mg/l (5 h, Rat, Experimental value, Inhalation)
LC50 Inhalation - Rat (Vapours)	9.7 mg/l/4h
ATE CA (oral)	4750 mg/kg body weight
ATE CA (Gases)	700 ppmV/4h
ATE CA (vapors)	9.7 mg/l/4h
ATE CA (dust,mist)	0.5 mg/l/4h
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Saremogenieity	
citral (5392-40-5)	
NOAEL (chronic,oral,animal/male,2 years)	60 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
	: May cause damage to organs through prolonged or repeated exposure.
STOT-repeated exposure	
citral (5392-40-5)	
LOAEC (inhalation,rat,gas,90 days)	68 ppm Animal: rat, Animal sex: female
NOAEL (oral,rat,90 days)	100 mg/kg body weight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEC (inhalation,rat,gas,90 days)	34 ppm Animal: rat, Animal sex: female
NOAEL (subchronic,oral,animal/male,90 days)	60 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this mater expected to be an inhalation hazard.

Symptoms/effects after skin contact	:	Irritation. May cause an allergic skin reaction.
Cymptomo/encoto aner okin contact	•	initiation. May badde an allergie skin readelen.

- Symptoms/effects after eye contact : None under normal conditions.
- Symptoms/effects after ingestion : None under normal conditions.

<b>SECTION 12: Ecological information</b>	
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short– term (acute)	: Not classified
Hazardous to the aquatic environment, long– term (chronic)	: Not classified

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citral (5392-40-5)	
LC50 - Fish [1]	6.78 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	6.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	103.8 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
d-Limonene (5989-27-5)	·
LC50 - Fish [1]	720 μg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
LC50 - Fish [2]	702 μg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi- static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [2]	0.51 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.214 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
BCF - Fish [1]	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
p-Cymene (99-87-6)	
LC50 - Fish [1]	48 mg/l (EPA OPPTS 850.1075, 96 h, Cyprinodon variegatus, Static system, Salt water, Experimental value)
EC50 - Crustacea [1]	3.7 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi- static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	4.03 mg/l (OECD 201: Alga, Growth Inhibition Test, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)
2.2. Persistence and degradability	
d-Limonene (5989-27-5)	
Persistence and degradability	Readily biodegradable in water.
ThOD	$3.29 \text{ g O}_2/\text{g substance}$
p-Cymene (99-87-6) Persistence and degradability	Readily biodegradable in water.
<u> </u>	
2.3. Bioaccumulative potential	
d-Limonene (5989-27-5)	
Bioaccumulative potential	Potential for bioaccumulation ( $4 \le Log \text{ Kow} \le 5$ ).
BCF - Fish [1]	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow)	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc)	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b>	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
Bioaccumulative potential BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential Partition coefficient n-octanol/water (Log Pow)	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential	<ul> <li>864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)</li> <li>4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)</li> <li>3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</li> <li>Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).</li> <li>4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20</li> </ul>
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc)	<ul> <li>864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)</li> <li>4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)</li> <li>3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</li> </ul> Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). 4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4.</b> Mobility in soil	<ul> <li>864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)</li> <li>4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)</li> <li>3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</li> </ul> Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). 4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4. Mobility in soil d-Limonene (5989-27-5)</b>	<ul> <li>864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)</li> <li>4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)</li> <li>3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</li> </ul> Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). 4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4. Mobility in soil d-Limonene (5989-27-5)</b> Surface tension	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).         4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 21 °C)         4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)         No data available in the literature
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4. Mobility in soil d-Limonene (5989-27-5)</b> Surface tension         Ecology - soil         Organic Carbon Normalized Adsorption	<ul> <li>864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)</li> <li>4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)</li> <li>3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</li> <li>Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).</li> <li>4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)</li> <li>4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)</li> </ul>
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4. Mobility in soil d-Limonene (5989-27-5)</b> Surface tension         Ecology - soil	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).         4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)         4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)         No data available in the literature         Low potential for mobility in soil.
BCF - Fish [1] Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential Partition coefficient n-octanol/water (Log Pow) Organic Carbon Normalized Adsorption Coefficient (Log Koc) <b>2.4.</b> Mobility in soil <b>d-Limonene (5989-27-5)</b> Surface tension Ecology - soil Organic Carbon Normalized Adsorption Coefficient (Log Koc) Partition coefficient n-octanol/water (Log Pow) P-Cymene (99-87-6)	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).         4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)         4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)         No data available in the literature         Low potential for mobility in soil.         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
BCF - Fish [1]         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>p-Cymene (99-87-6)</b> Bioaccumulative potential         Partition coefficient n-octanol/water (Log Pow)         Organic Carbon Normalized Adsorption         Coefficient (Log Koc) <b>2.4.</b> Mobility in soil <b>d-Limonene (5989-27-5)</b> Surface tension         Ecology - soil         Organic Carbon Normalized Adsorption         Coefficient (Log Koc)	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)         4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)         Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).         4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)         4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)         No data available in the literature         Low potential for mobility in soil.         3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

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p-Cym	ene (99-87-6)	
	c Carbon Normalized Adsorption ient (Log Koc)	4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Partitio	n coefficient n-octanol/water (Log Pow)	4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
12.5.	Other adverse effects	
Ozone		: Not classified

13.1. Disposal methods	
Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Flammable vapors may accumulate in the container. Do not re-use empty containers.

14.1. Basic shipping description	
In accordance with TDG	
Transportation of Dangerous Goods	
UN-No. (TDG)	: UN1266
Packing group (TDG)	: III - Minor Danger
TDG Primary Hazard Classes	: 3 - Class 3 - Flammable Liquids
Transport document description (TDG)	: UN1266 PERFUMERY PRODUCTS (Regulated for Bulk only), 3, III
Proper Shipping Name (TDG)	: PERFUMERY PRODUCTS
	(Regulated for Bulk only)
Hazard labels (TDG)	: 3 - Flammable Liquids
TDG Special Provisions	: 59 - Substances that are listed by name in Schedule 1 must not be transported under this
	shipping name. Substances transported under this shipping name may contain not more than 20% nitrocellulose if the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).
Explosive Limit and Limited Quantity Index	: 5L
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 60 L
14.2. Transport information/DOT	
Department of Transport	
DOT NA No	: UN1266
UN-No.(DOT)	: 1266
Packing group (DOT)	: III - Minor Danger
Transport document description (DOT)	: UN1266 Perfumery products (Regulated for Bulk only), 3, III
Proper Shipping Name (DOT)	: Perfumery products

Contains Statement Field Selection (DOT)	
Class (DOT)	
Division (DOT)	

:

: 3

(Regulated for Bulk only)

: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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according to the Hazardous Products Regulation (WHMIS	2015)
Hazard labels (DOT)	: 3 - Flammable liquid
	PLAMMARE LIQUID 3
Marine pollutant	: NO
Dangerous for the environment	: No
DOT Special Provisions (49 CFR 172.102)	<ul> <li>B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.</li> <li>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).</li> <li>T2 - 1.5 178.274(d)(2) Normal</li></ul>
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 127
Other information	: No supplementary information available.
14.3. Air and sea transport	
IMDG	
UN-No. (IMDG)	: 1266
Proper Shipping Name (IMDG)	: PERFUMERY PRODUCTS
Transport document description (IMDG)	: UN 1266 PERFUMERY PRODUCTS, 3, III
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
ΙΑΤΑ	
UN-No. (IATA)	: 1266
Proper Shipping Name (IATA)	: Perfumery products
Transport document description (IATA)	: UN 1266 Perfumery products, 3, III
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Low danger
SECTION 15: Regulatory information	
15.1. National regulations	
TERPINEOL P.G. (8000-41-7)	
Listed on the Canadian DSL (Domestic Substan	ices List)
citral (5392-40-5)	
Listed on the Canadian DSL (Domestic Substan	ices List)
p-Mentha-1,4-diene (99-85-4)	
Listed on the Canadian DSL (Domestic Substan	ices List)
p-Mentha-1,3-diene (99-86-5)	
Listed on the Canadian DSL (Domestic Substan	ices List)
p-Cymene (99-87-6)	
Listed on the Canadian DSL (Domestic Substan	ices List)

EN (English US)

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15.2. International regulations
TERPINEOL P.G. (8000-41-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
citral (5392-40-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
p-Mentha-1,4-diene (99-85-4)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
p-Cymene (99-87-6)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16: Other Information		
SDS Major/Minor	:	None
Issue date	:	06/25/2024

#### Full text of H-phrases:

lexi or n-priras	es.
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H320	Causes eye irritation
H331	Toxic if inhaled
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

SDS Canada (GHS) - Lebermuth

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.