

Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 07/15/2024 Version: 1.0

SECTION 1: Identification			
1.1. Identification			
Product form	: Mixture		
Product name	: OIL, POMELO PARADISE		
CAS-No.	: N/A		
Product code	: 11-0000-04		
1.2. Recommended use and restrictions o	n use		
1.3. Supplier			
The Lebermuth Company 4004 Technology Drive South Bend, IN 46628 - United States T 574-259-7000 - F 574-258-7450 info@lebermuth.com			
1.4. Emergency telephone number			
Emergency number	: CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300 CCN 13010		
SECTION 2: Hazard(s) identification			
2.1. Classification of the substance or mix	cture		
GHS US classification			
Flammable liquids Category 4 Skin corrosion/irritation Category 2 Skin sensitization, Category 1 Specific target organ toxicity (repeated exposure) Category 2	Combustible liquid Causes skin irritation May cause an allergic skin reaction May cause damage to organs through prolonged or repeated exposure		
Aspiration hazard Category 1	May be fatal if swallowed and enters airways		
2.2. GHS Label elements, including preca	utionary statements		
GHS US labeling			
Hazard pictograms (GHS US)	GHS07 GHS08		
Signal word (GHS US)	: Danger		
Hazard statements (GHS US)	 Combustible liquid May be fatal if swallowed and enters airways Causes skin irritation May cause an allergic skin reaction May cause damage to organs through prolonged or repeated exposure 		
Precautionary statements (GHS US)	 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Immediately call a poison center or doctor. If on skin: Wash with plenty of water. Get medical advice/attention if you feel unwell. Specific treatment (see supplemental first aid instruction on this label). Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 		

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Wash contaminated clothing before reuse. In case of fire: Use media other than water to extinguish. Store in a well-ventilated place. Keep cool. Store locked up. 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 which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
D-LIMONENE	(CAS-No.) 5989-27-5	25 – 50	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
2,4,6-Trimethyl-4-phenyl-1,3-dioxane	(CAS-No.) 5182-36-5	1 – 5	Acute Tox. 4 (Oral), H302
LINALOOL	(CAS-No.) 78-70-6	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
3,5-Dimethylcyclohex-3-ene-1-methyl acetate	(CAS-No.) 67634-25-7	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315
DL-CITRONELLOL	(CAS-No.) 106-22-9	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
ALPHA-TERPINEOL	(CAS-No.) 98-55-5	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
GERANYL ACETATE	(CAS-No.) 105-87-3	1 – 5	Skin Irrit. 2, H315 Skin Sens. 1B, H317
CITRAL	(CAS-No.) 5392-40-5	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT RE 2, H373
GERANIOL	(CAS-No.) 106-24-1	0.1 – 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317

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 general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off 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	: Do not induce vomiting. Call a physician immediately.
4.2. Most important symptoms and eff	fects (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	: Risk of lung edema.
4.3. Immediate medical attention and s	special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures	ing media		
5.1. Suitable (and unsuitable) extinguish	•		
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.		
Unsuitable extinguishing media	: Do not use a heavy water stream.		
5.2. Specific hazards arising from the ch	emical		
Fire hazard	: Combustible liquid.		
Explosion hazard	: No direct explosion hazard.		
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.		
5.3. Special protective equipment and pr	recautions for fire-fighters		
Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.		
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.		
SECTION 6: Accidental release meas	sures		
6.1. Personal precautions, protective eq	uipment 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.		
6.1.1. For non-emergency personnel			
Protective equipment	: Wear recommended personal protective equipment.		
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.		
6.1.2. For emergency responders			
Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".		
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.		
6.2. Environmental precautions			
Avoid release to the environment.			
6.3. Methods and material for containme	nt and cleaning up		
For containment	: 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.		
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.		
6.4. Reference to other sections			
For further information refer to section 13.			
SECTION 7: Handling and storage			
7.1. Precautions for safe handling			
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.		
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. Wear personal protective equipment. 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.		
7.2. Conditions for safe storage, including any incompatibilities			
Technical measures	: Keep in a cool, well-ventilated place away from heat.		
Storage conditions	: Store in a well-ventilated place. Keep cool. Store locked up.		
Packaging materials	: Store always product in container of same material as original container.		
	-		
SECTION 8: Exposure controls/perse	onal protection		

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8.1. Control parameters

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OIL, POMELO PARADISE (N/A)	
No additional information available	
D-LIMONENE (5989-27-5)	
No additional information available	
GERANIOL (106-24-1)	
No additional information available	
2,4,6-Trimethyl-4-phenyl-1,3-dioxane (518	2-36-5)
No additional information available	
LINALOOL (78-70-6)	
No additional information available	
GERANYL ACETATE (105-87-3)	
No additional information available	
3,5-Dimethylcyclohex-3-ene-1-methyl ace	tate (67634-25-7)
No additional information available	
DL-CITRONELLOL (106-22-9)	
No additional information available	
CITRAL (5392-40-5)	
USA - ACGIH - Occupational Exposure Li	mits
Local name	Citral
ACGIH OEL TWA	5 ppm (IFV - Inhalable fraction and vapor)
Remark (ACGIH)	TLV® Basis: Body weight eff; URT irr; eye dam. Notations: Skin; DSEN; A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024
ALPHA-TERPINEOL (98-55-5)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls Environmental exposure controls : Ensure good ventilation of the work station.: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment



SECTION 9: Physical and chemical properties		
9.1. Information on basic phys	ical and chemical properties	
Physical state	: Liquid	
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Color	: YELLOW TO AMBER
Odor	: CHARACTERISTIC, MATCHING RETAINER SAMPLE
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 63 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.907 (0.897 – 0.917)
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
9.2. Other information	
Refractive index	: 1.466 (1.456 – 1.476)
SECTION 10: Stability and reactivity	
10.1. Reactivity	
The product is non-reactive under normal conditi	ons of use, storage and transport.
10.2. Chemical stability	
Stable under normal conditions.	
10.3. Possibility of hazardous reactions	
No dangerous reactions known under normal co	nditions of use.
10.4. Conditions to avoid	
Avoid contact with hot surfaces. Heat. No flames	, no sparks. Eliminate all sources of ignition.
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition products	
Under normal conditions of storage and use, haz	ardous decomposition products should not be produced.
SECTION 11: Toxicological informat	

SECTION 11: Toxicological info	ormation
11.1. Information on toxicological e	offects
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
D-LIMONENE (5989-27-5)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, 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))
GERANIOL (106-24-1)	
ATE US (oral)	3600 mg/kg body weight

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2,4,6-Trimethyl-4-phenyl-1,3-dioxane (5182-36-5)		
ATE US (oral)	880 mg/kg body weight	
LINALOOL (78-70-6)		
ATE US (oral)	2790 mg/kg body weight	
GERANYL ACETATE (105-87-3)		
LD50 oral rat	6300 mg/kg (Rat, Oral)	
ATE US (oral)	6300 mg/kg body weight	
3,5-Dimethylcyclohex-3-ene-1-methyl acetate	(67634-25-7)	
ATE US (oral)	2500 mg/kg body weight	
DL-CITRONELLOL (106-22-9)		
LD50 oral rat	3450 mg/kg (Rat, Inconclusive, insufficient data, Oral)	
LD50 dermal rabbit	2650 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)	
ATE US (oral)	3450 mg/kg body weight	
ATE US (dermal)	2650 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:	
ALPHA-TERPINEOL (98-55-5)		
LD50 oral rat	4300 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700	
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)	
ATE US (oral)	4300 mg/kg body weight	
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	

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	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
GERANYL ACETATE (105-87-3)	
NOAEL (oral,rat,90 days)	2000 mg/kg body weight Animal: rat, Guideline: other:
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.

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scosity, kinematic IN data available imptoms/effects after inhalation Introduction appropriate human or animal health effects data are known to exist, expected to be an inhalation hazard. imptoms/effects after skin contact Intritation. May cause an allergic skin reaction. imptoms/effects after skin contact Intritation. May cause an allergic skin reaction. imptoms/effects after skin contact Risk of lung edema. ECTION 12: Ecological information Risk of lung edema. 24.1 Toxicity cology - general The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONENE (5989-27-5) T20 ug/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-H system, Fresh water, Experimental value, GLP) C50 - Frish [1] T20 ug/l Test organisms (species): Pimephales promelas C50 - Crustacea [1] 0.307 mg/l (OECD 202: Daphnia ap, Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) C50 - Frish [2] T02 ug/l Test organisms (species): Daphnia magna C50 - Frish [1] 68.12 mg/l (DIN 38412: German standard methods for the examination of water, and studge, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value C50 - Frish [1] 14.66 mg/l (DIN 38412-15, 96 h, Leuciscus idus C50 - Frish [1] 14.66 mg/l (DIN 3841	5)	
Iscosity, kinematic I. No data available ymptoms/effects after inhalation In Altough no appropriate human or animal health effects data are known to exist, expected to be an inhalation hazard. ymptoms/effects after skin contact Initiation. May cause an allergic skin reaction. ymptoms/effects after ingestion Initiation. May cause an allergic skin reaction. Section 12: Ecological information Initiation. May cause an allergic skin reaction. 24.1 Toxicity cology - general The product is not considered harmful to aquatic organisms or to cause long-tem effects in the environment. D-LIMONENE (5989-27-5) Initiation 0 (CECD 202), 96 h, Pimephales promelas, Flow-H system, Fresh water, Experimental value, GLP) C50 - Crustacea [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-H system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Daphnia magna C650 - Crustacea [2] 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (106-87-3) Ke 12 mg/l (DIN 38412: German standard methods for the examination of water, and sludge, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value C10 - Fish [1] 14.6 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value C105 - Fish [1] 17.48 mg/l (48 h, Daphnia magna, Static system, Fresh water, Ex		(Repeated Dose 90-
Authough no appropriate human or animal health effects data are known to exist, expected to be an inhalation hazard. Symptoms/effects after skin contact : Irritation. May cause an allegic skin reaction. Symptoms/effects after eye contact : None under normal conditions. Symptoms/effects after ingestion : Risk of lung edema. SECTION 12: Ecological information : None under normal conditions. 2.1. Toxicity : The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONEE (5989-27-5) : Cology - general LC50 - Fish [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales prometas, Flow-the system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Pimephales prometas EC50 - Crustacea [1] 0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) I. Static system, Fresh water, Species): Dispholes prometas LC50 - Crustacea [1] 14.68 mg/l (DIN 38412: German standard methods for the examination of water, and sludge, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value GEC3 - Crustacea [1] 14.68 mg/l (DIN 38412: 15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value	: May be fatal if swallowed and enters airways.	
expected to be an inhalation hazard. symptoms/effects after sign contact : Irritation. May cause an allergic skin reaction. symptoms/effects after eye contact : None under normal conditions. symptoms/effects after ingestion : Risk of lung edema. SECTION 12: Ecological information 2.1. Toxicity cicology - general : The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. DLIMONENE (5989-27-5) LC50 - Fish [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value) EC50 - Crustacea [1] 0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Pimephales promelas EC50 - Crustacea [2] 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) EC50 - Crustacea [1] LC50 - Fish [1] 88.12 mg/l (DIN 38412:15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value GEC50 - Crustacea [1] 14.68 mg/l Test organisms (species): Louciscus idus EC50 - Crustacea [1] 14.68 mg/l Test organisms (species): Louciscus idus EC50 - Fish [1] 6.78 mg/l Test organisms (species): Daphnia magna	: No data available	
Section 1 None under normal conditions. Section 12: Ecological information : Risk of lung edema. Section 12: Ecological information : Risk of lung edema. Section 12: Ecological information : The product is not considered harmful to aquatic organisms or to cause long-tem effects in the environment. D-LIMONENE (5989-27-5) : The product is not considered harmful to aquatic organisms or to cause long-tem effects in the environment. D-LIMONENE (5989-27-5) : Z0 ug/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value) EC50 - Crustacea [1] : 0.307 mg/l OECD 202: Ophria sp. Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] : 702 µg/l Test organisms (species): Pimephales promelas EC50 - Crustacea [2] : 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) : Lcudiscus Idus, Static system, Fresh water, Read-across) LC50 - Fish [1] : 68.12 mg/l (DIN 38412-15, 96 h, Leuciscus Idus, Static system, Fresh water, Experimental value (SE0 - Crustacea [1] DI-CITRONELLOL (106-22-9) : 708 mg/l Test organisms (species): Leuciscus idus EC50 - Crustacea [1] : 7.48 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value CTRAL (6322-40-5) :		vn to exist, this material is
Symptoms/effects after ingestion : Risk of lung edema. ECCTION 12: Ecological information 12.1. Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONENE (5989-27-5) Image: Comparison of the environment. D-LIMONENE (5989-27-5) Image: Comparison of the environment. C50 - Fish [1] Z20 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Pimephales promelas EC50 - Crustacea [2] 0.51 mg/l (DIN 38412: German standard methods for the examination of water, and sludge, 96 h, Leuciscus idus, Static system, Fresh water, Read-across) EC50 - Crustacea [1] 14.1 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP) DL-CITRONELLO (106-22-9) Image: Comparison (species): Leuciscus idus, Static system, Fresh water, Experimental value value, GLP) DLCTRONELLO (106-22-9) Image: Comparison (species): Leuciscus idus, Static system, Fresh water, Experimental value C50 - Crustacea [1] 14.66 mg/l Test organisms (species): Leuciscus idus C50 - Crustacea [1] 6.78 mg/l Test organisms (species): Daphnia magna LC50 - Fish [1] 6.8 mg/l Test organisms (species):	ntact : Irritation. May cause an allergic skin reaction.	
ECTION 12: Ecological information 2.1. Toxicity icology - general The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONENE (5989-27-5) ECS0 - Fish [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value) EC50 - Crustacea [1] 0.307 mg/l (OECD 202: Daphnia ap. Acute Immobilisation Test, 48 h, Daphnia mu static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Daphnia promelas EC50 - Crustacea [2] 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) EC50 - Crustacea [1] LC50 - Fish [1] 68.12 mg/l (DIN 38412: German standard methods for the examination of water, and sludge, 96 h, Leuciscus idus, Static system, Fresh water, Read-across) EC50 - Crustacea [1] 14.46 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Exp value, GLP) DLCITRONELLOL (106-22-9) LC50 - Fish [1] LC50 - Fish [1] 17.48 mg/l Test organisms (species): Leuciscus idus, Static system, Fresh water, Exp value) EC50 - Crustacea [1] 70 mg/l Test organisms (species): Daphnia magna C50 - Fish [1] 6.8 mg/l Test organisms (species): Daphnia magna EC50 - Crustacea [1] 70 mg/l Test organisms (species): Daphnia magna	ntact : None under normal conditions.	
2.1. Toxicity Coology - general The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONENE (5989-27-5) EC50 - Fish [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value, GLP) EC50 - Crustacea [1] 0.307 mg/l (OECD 202): Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Diaphnia magna EC60 - Crustacea [2] 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) EC50 - Fish [1] LC50 - Fish [1] 68.12 mg/l (DIN 38412: German standard methods for the examination of water, and sludge, 96 h, Leuciscus idus, Static system, Fresh water, Read-across) EC50 - Crustacea [1] 14.1 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value) EC50 - Crustacea [1] 17.48 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value) EC50 - Crustacea [1] 17.48 mg/l Test organisms (species): Leuciscus idus EC50 - Crustacea [1] 6.78 mg/l Test organisms (species): Daphnia magna C17RAL (5392-40-5) EC50 - Crustacea [1] 6.78 mg/l Test organisms (species): Daphnia magna EC50 - Crustacea [1] 73 mg/l Test organisms (species): Daphnia magna <t< td=""><td>on : Risk of lung edema.</td><td></td></t<>	on : Risk of lung edema.	
Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term effects in the environment. D-LIMONENE (5989-27-5)	al information	
effects in the environment. D-LIMONENE (5989-27-5) LC50 - Fish [1] 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-th system, Fresh water, Experimental value) EC50 - Crustacea [1] 0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia m static system, Fresh water, Experimental value, GLP) LC50 - Fish [2] 702 µg/l Test organisms (species): Pimephales promelas EC50 - Crustacea [2] 0.51 mg/l Test organisms (species): Daphnia magna GERANYL ACETATE (105-87-3) LC50 - Fish [1] 68.12 mg/l (DIN 38412: German standard methods for the examination of water, and alduge, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value, GLP) DL-CITRONELLOL (106-22-9) LC50 - Crustacea [1] 14.4 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value (SLP) DL-CITRONELLOL (106-22-9) LC50 - Crustacea [1] 14.4 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value (SCS0 - Crustacea [1] CITRONELLOL (106-22-9) LC50 - Fish [1] Crustacea [1] 0.7 Mg/l Test organisms (species): Leuciscus idus Carustacea [1]		

12.3.	Bioaccumulative potential	
D-LIMO	DNENE (5989-27-5)	
BCF - F	Fish [1]	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)

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D-LIMONENE (5989-27-5)		
Partition coefficient n-octanol/water (Log Pow)	4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)	
Bioaccumulative potential	Potential for bioaccumulation ($4 \le Log$ Kow ≤ 5).	
GERANYL ACETATE (105-87-3)		
BCF - Other aquatic organisms [1]	1500 (Estimated value)	
Partition coefficient n-octanol/water (Log Pow)	4.04 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)	
Bioaccumulative potential	Potential for bioaccumulation ($4 \le Log \text{ Kow} \le 5$).	
DL-CITRONELLOL (106-22-9)		
BCF - Fish [1]	82.59 l/kg (BCFBAF v3.00, Estimated value)	
Partition coefficient n-octanol/water (Log Pow)	3.41 (Practical experience/observation, EU Method A.8: Partition Coefficient, 25 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	

12.4. Mobility in soil

D-LIMONENE (5989-27-5)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil.

GERANYL ACETATE (105-87-3)	VYL ACETATE (105-87-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.06 (log Koc, SRC PCKOCWIN v2.0, Calculated value)	
Ecology - soil	Low potential for mobility in soil.	
DL-CITRONELLOL (106-22-9)		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.85 (log Koc, EPIWIN 2.00, Estimated value)	
Ecology - soil	Highly mobile in soil.	

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations		
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	: Do not re-use empty containers.	
SECTION 14: Transport information		
Department of Transportation (DOT)		
In accordance with DOT		
Transport document description (DOT)	: UN1266 Perfumery products (Regulated for Bulk only), Comb Liq, III	
UN-No.(DOT)	: UN1266	
Proper Shipping Name (DOT)	: Perfumery products	
	(Regulated for Bulk only)	
Class (DOT)	: Comb Liq - Combustible liquid	
Packing group (DOT)	: III - Minor Danger	
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203	
DOT Packaging Bulk (49 CFR 173.xxx) : 242		

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DOT Special Provisions (49 CFR 172.102)	: 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.
	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).
	T2 - 1.5 178.274(d)(2) Normal 178.275(d)(3)
	TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
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.

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information	
15.1. US Federal regulations	

2,4	4,6-Trimethyl-4-phenyl-1,3-dioxane (5182-36-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
3,5-Dimethylcyclohex-3-ene-1-methyl acetate (67634-25-7)	
3,5	

15.2. International regulations

CANADA

No additional information available

2,4,6-Trimethyl-4-phenyl-1,3-dioxane (5182-36-5)

Listed on the Canadian DSL (Domestic Substances List)

LINALOOL (78-70-6)

Listed on the Canadian DSL (Domestic Substances List)

GERANYL ACETATE (105-87-3)

Listed on the Canadian DSL (Domestic Substances List)

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3.5-Dimethylcyclohex-3-ene-1-methyl acetate (67634-25-7)	
5,5-Dimetry cyclonex-o-ene-1-metry acetate (0/004-20-7)	
Listed on the Canadian NDSL (Non-Domestic Substances List)	
DL-CITRONELLOL (106-22-9)	
Listed on the Canadian DSL (Domestic Substances List)	
CITRAL (5392-40-5)	
Listed on the Canadian DSL (Domestic Substances List)	
ALPHA-TERPINEOL (98-55-5)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations No additional information available

National regulations

LINALOOL (78-70-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

GERANYL ACETATE (105-87-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

DL-CITRONELLOL (106-22-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

CITRAL (5392-40-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

ALPHA-TERPINEOL (98-55-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

WARNING:

This product can expose you to methyl eugenol, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

This product can expose you to beta-myrcene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Full text of H-phrases:

intext of H-phrases.	
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
H318	Causes serious eye damage
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure

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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.