

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : ENERGIZING FRAGRANCE  
 CAS-No. : N/A  
 Product code : REM103

#### 1.2. Recommended use and restrictions on use

#### 1.3. Supplier

EXTRACT CONSULTANTS, LLC.  
 TERPENES - FLAVORS - BASES  
 PO BOX 11433, DENVER, CO 80211  
 www.extractconsultants.com  
 INFORMATION: 1-888-541-9089

#### 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 mixture

##### GHS US classification

Flammable liquids Category 4	Combustible liquid
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Skin sensitization, Category 1	May cause an allergic skin reaction
Reproductive toxicity Category 2	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure) Category 2	May cause damage to organs
Aspiration hazard Category 1	May be fatal if swallowed and enters airways

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



GHS05

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  
 Causes serious eye damage  
 Suspected of damaging fertility or the unborn child  
 May cause damage to organs

Precautionary statements (GHS US) :

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 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.  
 Do not eat, drink or smoke when using this product.  
 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.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If exposed or concerned: Call a poison center or doctor.  
If exposed or concerned: Get medical advice/attention.  
Immediately call a poison center or doctor.  
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.  
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

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Name	Product identifier	%	GHS US classification
LINALOOL	(CAS-No.) 78-70-6	25 – 50	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
LINALYL ACETATE	(CAS-No.) 115-95-7	25 – 50	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
Eucalyptol	(CAS-No.) 470-82-6	5 – 10	Flam. Liq. 3, H226 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
D-LIMONENE	(CAS-No.) 5989-27-5	5 – 10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one	(CAS-No.) 76-22-2	5 – 10	Flam. Liq. 4, H227 Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 2, H371
4-Carvomenthenol	(CAS-No.) 562-74-3	1 – 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H336
BORNEOL	(CAS-No.) 507-70-0	1 – 5	Flam. Sol. 1, H228 Skin Irrit. 2, H315
BETA-CARYOPHYLLENE	(CAS-No.) 87-44-5	1 – 5	Asp. Tox. 1, H304
BETA-PINENE	(CAS-No.) 127-91-3	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
GAMMA-TERPINENE	(CAS-No.) 99-85-4	1 – 5	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304
l-Limonene	(CAS-No.) 5989-54-8	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
cis-beta-Farnesene	(CAS-No.) 28973-97-9	1 – 5	Asp. Tox. 1, H304
$\alpha$ -Terpineol	(CAS-No.) 98-55-5	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319
CITRAL	(CAS-No.) 5392-40-5	0.1 – 1	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT RE 2, H373
p-Cymene	(CAS-No.) 99-87-6	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation:vapour), H331 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 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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Do not induce vomiting. Call a physician immediately.

#### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.

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Symptoms/effects after ingestion : Risk of lung edema.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

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".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

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

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. 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.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### ENERGIZING FRAGRANCE (N/A)

No additional information available

#### $\alpha$ -Terpineol (98-55-5)

No additional information available

#### Eucalyptol (470-82-6)

No additional information available

#### 4-Carvomenthenol (562-74-3)

No additional information available

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<b>BETA-PINENE (127-91-3)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	β-Pimene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: Lung irr. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022
<b>I-Limonene (5989-54-8)</b>	
No additional information available	
<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (76-22-2)</b>	
No additional information available	
<b>GAMMA-TERPINENE (99-85-4)</b>	
No additional information available	
<b>p-Cymene (99-87-6)</b>	
No additional information available	
<b>LINALOOL (78-70-6)</b>	
No additional information available	
<b>BETA-CARYOPHYLLENE (87-44-5)</b>	
No additional information available	
<b>LINALYL ACETATE (115-95-7)</b>	
No additional information available	
<b>BORNEOL (507-70-0)</b>	
No additional information available	
<b>cis-beta-Farnesene (28973-97-9)</b>	
No additional information available	
<b>CITRAL (5392-40-5)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Citral
ACGIH OEL TWA [ppm]	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 2021
<b>D-LIMONENE (5989-27-5)</b>	
No additional information available	

### 8.2. Appropriate engineering controls

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

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Wear respiratory protection.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: PALE YELLOW TO YELLOW
Odor	: CHARACTERISTIC, MATCHING RETAINER SAMPLE
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 66 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.885 (0.875 – 0.895)
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	: 1.464 (1.454 – 1.474)
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions 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 conditions 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, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified

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Acute toxicity (inhalation) : Not classified

<b><math>\alpha</math>-Terpineol (98-55-5)</b>	
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
<b>Eucalyptol (470-82-6)</b>	
LD50 oral rat	4500 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))
ATE US (oral)	2480 mg/kg body weight
<b>4-Carvomenthenol (562-74-3)</b>	
ATE US (oral)	1300 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>BETA-PINENE (127-91-3)</b>	
LD50 oral rat	4700 mg/kg (Rat, Oral)
ATE US (oral)	4700 mg/kg body weight
<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (76-22-2)</b>	
ATE US (oral)	1500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>GAMMA-TERPINENE (99-85-4)</b>	
ATE US (oral)	3850 mg/kg body weight
<b>p-Cymene (99-87-6)</b>	
LD50 oral rat	4750 mg/kg (Rat, Male / female, Experimental value, Oral, 14 day(s))
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)
ATE US (oral)	4750 mg/kg body weight
ATE US (vapors)	3 mg/l/4h
<b>LINALOOL (78-70-6)</b>	
ATE US (oral)	2790 mg/kg body weight
<b>BORNEOL (507-70-0)</b>	
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	0.5 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
ATE US (oral)	2500 mg/kg body weight
<b>CITRAL (5392-40-5)</b>	
LD50 oral rat	≈ 6800 mg/kg body weight Animal: rat
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Remarks on results: other:
ATE US (dermal)	2250 mg/kg body weight
<b>D-LIMONENE (5989-27-5)</b>	
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))

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye damage.

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Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

<b>CITRAL (5392-40-5)</b>	
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:

<b>D-LIMONENE (5989-27-5)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure : May cause damage to organs.

<b>4-Carvomenthenol (562-74-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.

<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (76-22-2)</b>	
STOT-single exposure	May cause damage to organs.

STOT-repeated exposure : Not classified

<b><math>\alpha</math>-Terpineol (98-55-5)</b>	
NOAEL (oral, rat, 90 days)	$\geq$ 314 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

<b>Eucalyptol (470-82-6)</b>	
NOAEL (oral, rat, 90 days)	600 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other., Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3150 (90-Day Oral Toxicity in Non-rodents)

<b>BORNEOL (507-70-0)</b>	
NOAEL (oral, rat, 90 days)	3.2 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	250 mg/kg body weight Animal: rat, Guideline: other:

<b>CITRAL (5392-40-5)</b>	
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	: May be fatal if swallowed and enters airways.
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Risk of lung edema.



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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

<b><math>\alpha</math>-Terpineol (98-55-5)</b>	
LC50 - Fish [1]	70 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	73 mg/l Test organisms (species): Daphnia magna

<b>Eucalyptol (470-82-6)</b>	
LC50 - Fish [1]	57 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

<b>BETA-PINENE (127-91-3)</b>	
LC50 - Fish [1]	0.557 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Semi-static system, Fresh water, Weight of evidence, Other isomer)
ErC50 algae	0.826 mg/l (OECD 201: Alga, Growth Inhibition Test, 48 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, Other isomer)

<b>p-Cymene (99-87-6)</b>	
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)
ErC50 algae	4.03 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)

<b>BORNEOL (507-70-0)</b>	
LC50 - Fish [1]	33.25 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	4.23 mg/l Test organisms (species): Daphnia magna

<b>CITRAL (5392-40-5)</b>	
LC50 - Fish [1]	6.78 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	6.8 mg/l Test organisms (species): Daphnia magna

<b>D-LIMONENE (5989-27-5)</b>	
LC50 - Fish [1]	720 $\mu$ g/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
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)
LC50 - Fish [2]	702 $\mu$ g/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [2]	0.51 mg/l Test organisms (species): Daphnia magna
ErC50 algae	0.32 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

#### 12.2. Persistence and degradability

<b>Eucalyptol (470-82-6)</b>	
Persistence and degradability	Readily biodegradable in water.

<b>BETA-PINENE (127-91-3)</b>	
Persistence and degradability	Readily biodegradable in water.

<b>I-Limonene (5989-54-8)</b>	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O <sub>2</sub> /g substance

<b>p-Cymene (99-87-6)</b>	
Persistence and degradability	Readily biodegradable in water.

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<b>D-LIMONENE (5989-27-5)</b>	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

<b>Eucalyptol (470-82-6)</b>	
BCF - Other aquatic organisms [1]	112 l/kg (Literature study, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	3.4 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

<b>BETA-PINENE (127-91-3)</b>	
BCF - Fish [1]	1125 l/kg (BCFBAF v3.01, Pisces, Fresh water, QSAR, Other isomer)
Partition coefficient n-octanol/water (Log Pow)	4.425 (Similar product, Read-across, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

<b>I-Limonene (5989-54-8)</b>	
Partition coefficient n-octanol/water (Log Pow)	4.83 (QSAR)
Bioaccumulative potential	Bioaccumable.

<b>p-Cymene (99-87-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	4.8 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

<b>D-LIMONENE (5989-27-5)</b>	
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)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

### 12.4. Mobility in soil

<b>Eucalyptol (470-82-6)</b>	
Surface tension	61.5 mN/m (20 °C, 1 g/l, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.33 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for adsorption in soil.

<b>BETA-PINENE (127-91-3)</b>	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.009 – 3.836 (log Koc, Calculated value, Other isomer)
Ecology - soil	Low potential for mobility in soil.

<b>I-Limonene (5989-54-8)</b>	
Ecology - soil	Adsorbs into the soil.

<b>p-Cymene (99-87-6)</b>	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Low potential for mobility in soil.

<b>D-LIMONENE (5989-27-5)</b>	
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.

### 12.5. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT) : NA1993 Combustible liquid, n.o.s. (Linalool, Linalyl acetate) - Regulated for Bulk only, Comb Liq, III

UN-No.(DOT) : NA1993

Proper Shipping Name (DOT) : Combustible liquid, n.o.s.  
(Linalool, Linalyl acetate) - 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) : 241

DOT Symbols : D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name

DOT Special Provisions (49 CFR 172.102) : 148 - For domestic transportation, this entry directs to § 173.66 for: a. The standards for transporting a single bulk hazardous material for blasting by cargo tank motor vehicles (CTMV); and b. The standards for CTMVs capable of transporting multiple hazardous materials for blasting in bulk and non-bulk packagings (i.e, a multipurpose bulk truck (MBT)).  
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).  
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)  
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.

Other information : No supplementary information available.

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

Not regulated

#### Air transport

Not regulated

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

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### **cis-beta-Farnesene (28973-97-9)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

## 15.2. International regulations

### CANADA

#### **$\alpha$ -Terpineol (98-55-5)**

Listed on the Canadian DSL (Domestic Substances List)

#### **Eucalyptol (470-82-6)**

Listed on the Canadian DSL (Domestic Substances List)

#### **4-Carvomenthenol (562-74-3)**

Listed on the Canadian DSL (Domestic Substances List)

#### **BETA-PINENE (127-91-3)**

Listed on the Canadian DSL (Domestic Substances List)

#### **l-Limonene (5989-54-8)**

Listed on the Canadian DSL (Domestic Substances List)

#### **1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (76-22-2)**

Listed on the Canadian DSL (Domestic Substances List)

#### **GAMMA-TERPINENE (99-85-4)**

Listed on the Canadian DSL (Domestic Substances List)

#### **p-Cymene (99-87-6)**

Listed on the Canadian DSL (Domestic Substances List)

#### **LINALOOL (78-70-6)**

Listed on the Canadian DSL (Domestic Substances List)

#### **BETA-CARYOPHYLLENE (87-44-5)**

Listed on the Canadian DSL (Domestic Substances List)

#### **LINALYL ACETATE (115-95-7)**

Listed on the Canadian DSL (Domestic Substances List)

#### **BORNEOL (507-70-0)**

Listed on the Canadian DSL (Domestic Substances List)

#### **cis-beta-Farnesene (28973-97-9)**

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

#### **CITRAL (5392-40-5)**

Listed on the Canadian DSL (Domestic Substances List)

#### **D-LIMONENE (5989-27-5)**

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

#### **$\alpha$ -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)

#### **Eucalyptol (470-82-6)**

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

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### 4-Carvomenthenol (562-74-3)

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

### BETA-PINENE (127-91-3)

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

### I-Limonene (5989-54-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

### 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (76-22-2)

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

### GAMMA-TERPINENE (99-85-4)

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

### p-Cymene (99-87-6)

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

### 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)

### BETA-CARYOPHYLLENE (87-44-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

### LINALYL ACETATE (115-95-7)

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

### BORNEOL (507-70-0)

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)

### D-LIMONENE (5989-27-5)

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

This product can expose you to furocoumarines (e. g. trioxysalen (inn), 8-methoxypsoralen, 5-methoxypsoralen) except for normal content in natural essences used. in sunprotection and in bronzing products, furocoumarines shall be below 1 mg/kg, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



#### WARNING:

This product can expose you to eugenyl methyl ether, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

This product can expose you to myrcene, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Component	State or local regulations
1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one(76-22-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
p-Cymene(99-87-6)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List

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Component	State or local regulations
BORNEOL(507-70-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

### SECTION 16: Other information

Revision date : 01/13/2023

Full text of H-phrases:

H226	Flammable liquid and vapor
H227	Combustible liquid
H228	Flammable solid
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
H320	Causes eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

SDS US (GHS HazCom 2012)

*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.*