OIL, WINDSONG BALSAM PINE*

Safety Data Sheet

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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : OIL, WINDSONG BALSAM PINE*

CAS-No. : N/A

Product code : 50-7225-01

1.2. Recommended use and restrictions on 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 - www.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 mixture

GHS US classification

Flammable liquids Category 4	Combustible liquid
Skin corrosion/irritation Category 2	Causes skin irritation
Skin sensitization, Category 1	May cause an allergic skin reaction
Reproductive toxicity Category 2	Suspected of damaging fertility or the unborn child
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) :

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
Suspected of damaging fertility or the unborn child

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.
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.
If exposed or concerned: Get medical advice/attention.
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

Name	Product identifier	%	GHS US classification
D-LIMONENE	(CAS-No.) 5989-27-5	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
ALPHA-PINENE	(CAS-No.) 80-56-8	1 – 5	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 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
BENZYL SALICYLATE	(CAS-No.) 118-58-1	1 – 5	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
DIETHYL PHTHALATE	(CAS-No.) 84-66-2	1 – 5	Acute Tox. 3 (Inhalation:vapour), H331
PTBCHA	(CAS-No.) 32210-23-4	1 – 5	Acute Tox. 4 (Oral), H302 Skin Sens. 1B, H317
Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified)	(CAS-No.) 27939-60-2	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
delta-3-Carene	(CAS-No.) 13466-78-9	1 – 5	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304
LINALYL ACETATE	(CAS-No.) 115-95-7	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
ALPHA PINENE	(CAS-No.) 80-56-8	1 – 5	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
ETHYL MALTOL	(CAS-No.) 4940-11-8	1 – 5	Acute Tox. 4 (Oral), H302
GAMMA-TERPINENE	(CAS-No.) 99-85-4	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304
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

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 effects (acute and delayed)

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

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

OIL, WINDSONG BALSAM PINE* (N/A)	
No additional information available	

ALPHA PINENE (80-56-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	20 ppm

BENZYL SALICYLATE (118-58-1)	
No additional information available	

BETA-PINENE (127-91-3)	
USA - ACGIH - Occupational Exposure Limits	
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

ALPHA-PINENE (80-56-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	α-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

delta-3-Carene (13466-78-9)	
No additional information available	

PTBCHA (32210-23-4)	
No additional information available	

GAMMA-TERPINENE (99-85-4)	
No additional information available	

CITRAL (5392-40-5)	
USA - ACGIH - Occupational Exposure Limits	
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

D-LIMONENE (5989-27-5)	
No additional information available	

ETHYL MALTOL (4940-11-8)	
No additional information available	

DIETHYL PHTHALATE (84-66-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Diethyl phthalate
ACGIH OEL TWA	5 mg/m³
Remark (ACGIH)	URT irr

LINALYL ACETATE (115-95-7)	
No additional information available	

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	AMBER TO DARK GREEN/BROWN LIQUID
Odor	:	CHARACTERISTIC, PINE ODOR
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	:	62 °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	:	0.962 (0.952 – 0.972)
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	:	1.471 (1.461 – 1.481)

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

Acute toxicity (inhalation) : Not classified

ALPHA PINENE (80-56-8)	
LD50 oral rat	> 500 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 01 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Skin, 14 day(s))
ATE US (oral)	500 mg/kg body weight

BENZYL SALICYLATE (118-58-1)	
ATE US (oral)	2200 mg/kg body weight

BETA-PINENE (127-91-3)	
LD50 oral rat	4700 mg/kg (Rat, Oral)
ATE US (oral)	4700 mg/kg body weight

ALPHA-PINENE (80-56-8)	
LD50 oral rat	> 500 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 01 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Skin, 14 day(s))
ATE US (oral)	500 mg/kg body weight

delta-3-Carene (13466-78-9)	
ATE US (oral)	4800 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

PTBCHA (32210-23-4)	
LD50 oral rat	300 – 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
ATE US (oral)	300 mg/kg body weight

GAMMA-TERPINENE (99-85-4)	
ATE US (oral)	3850 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:
ATE US (dermal)	2250 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, 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))

ETHYL MALTOL (4940-11-8)	
LD50 oral rat	1220 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral)
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: no indication of skin irritation up to the relevant limit dose level
ATE US (oral)	1200 mg/kg body weight

DIETHYL PHTHALATE (84-66-2)	
LD50 oral rat	> 5991 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 11181 mg/kg body weight (24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 4.64 mg/l (6 h, Rat, Experimental value, Inhalation, 14 day(s))
ATE US (vapors)	3 mg/l/4h

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
LD50 oral rat	3900 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5100
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	3900 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:

D-LIMONENE (5989-27-5)	
IARC group	3 - Not classifiable

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

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

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.

ETHYL MALTOL (4940-11-8)	
NOAEL (oral,rat,90 days)	≥ 200 mg/kg body weight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

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 ingestion : Risk of lung edema.

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.

ALPHA PINENE (80-56-8)	
LC50 - Fish [1]	0.303 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	0.475 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)

BETA-PINENE (127-91-3)	
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)

ALPHA-PINENE (80-56-8)	
LC50 - Fish [1]	0.303 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	0.475 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)

PTBCHA (32210-23-4)	
LC50 - Fish [1]	8.6 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	5.3 mg/l Test organisms (species): Daphnia magna

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

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)
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 µg/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)

ETHYL MALTOL (4940-11-8)	
LC50 - Fish [1]	> 85 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	27 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
ErC50 algae	7.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

DIETHYL PHTHALATE (84-66-2)	
LC50 - Fish [1]	12 mg/l (EPA 660/3 - 75/009, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)
ErC50 algae	45 mg/l (Equivalent or similar to OECD 201, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
LC50 - Fish [1]	15 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	7.74 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)
ErC50 algae	22.8 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

ALPHA PINENE (80-56-8)	
Persistence and degradability	Readily biodegradable in water.

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

ALPHA-PINENE (80-56-8)	
Persistence and degradability	Readily biodegradable in water.

D-LIMONENE (5989-27-5)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O_2/g substance

ETHYL MALTOL (4940-11-8)	
Persistence and degradability	Readily biodegradable in water.

DIETHYL PHTHALATE (84-66-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

ALPHA PINENE (80-56-8)	
BCF - Other aquatic organisms [1]	1233.1 – 1248 l/kg (BCFBAF v3.01, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.487 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

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

ALPHA-PINENE (80-56-8)	
BCF - Other aquatic organisms [1]	1233.1 – 1248 l/kg (BCFBAF v3.01, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.487 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

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

ETHYL MALTOL (4940-11-8)	
Partition coefficient n-octanol/water (Log Pow)	2.9 (Practical experience/observation, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

DIETHYL PHTHALATE (84-66-2)	
Partition coefficient n-octanol/water (Log Pow)	2.2 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
BCF - Other aquatic organisms [1]	86.1 l/kg (Calculated value)
Partition coefficient n-octanol/water (Log Pow)	3.1 (Experimental value, Equivalent or similar to OECD 117, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

ALPHA PINENE (80-56-8)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.009 – 3.853 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil. May be harmful to plant growth, blooming and fruit formation.

BETA-PINENE (127-91-3)	
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.

ALPHA-PINENE (80-56-8)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.009 – 3.853 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil. May be harmful to plant growth, blooming and fruit formation.

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.

ETHYL MALTOL (4940-11-8)	
Ecology - soil	No (test)data on mobility of the substance available.

DIETHYL PHTHALATE (84-66-2)	
Surface tension	37.5 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.34 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Low potential for adsorption in soil.

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.2 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

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. (l-Borneol, d-Limonene) - Regulated for Bulk only, Comb Liq, III

UN-No.(DOT) : NA1993

Proper Shipping Name (DOT) : Combustible liquid, n.o.s.
(l-Borneol, d-Limonene) - 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

ALPHA PINENE (80-56-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

PTBCHA (32210-23-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

DIETHYL PHTHALATE (84-66-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1000 lb

15.2. International regulations

CANADA

ALPHA PINENE (80-56-8)
Listed on the Canadian DSL (Domestic Substances List)
BENZYL SALICYLATE (118-58-1)
Listed on the Canadian DSL (Domestic Substances List)

BETA-PINENE (127-91-3)
Listed on the Canadian DSL (Domestic Substances List)

ALPHA-PINENE (80-56-8)
Listed on the Canadian DSL (Domestic Substances List)

delta-3-Carene (13466-78-9)
Listed on the Canadian DSL (Domestic Substances List)

PTBCHA (32210-23-4)
Listed on the Canadian DSL (Domestic Substances List)

GAMMA-TERPINENE (99-85-4)
Listed on the Canadian DSL (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)

ETHYL MALTOL (4940-11-8)
Listed on the Canadian DSL (Domestic Substances List)

DIETHYL PHTHALATE (84-66-2)
Listed on the Canadian DSL (Domestic Substances List)

LINALYL ACETATE (115-95-7)
Listed on the Canadian DSL (Domestic Substances List)

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

BENZYL SALICYLATE (118-58-1)
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)

ALPHA-PINENE (80-56-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

delta-3-Carene (13466-78-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

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)

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)

ETHYL MALTOL (4940-11-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)

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)

Dimethylcyclohex-3-ene-1-carbaldehyde (isomer unspecified) (27939-60-2)
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 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.

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

Component	State or local regulations
ALPHA PINENE(80-56-8)	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
ALPHA-PINENE(80-56-8)	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
DIETHYL PHTHALATE(84-66-2)	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

SECTION 16: Other information

Revision date : 11/18/2022

Full text 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
H319	Causes serious eye irritation
H320	Causes eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

SDS US (GHS HazCom 2012) - 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.