



OIL, RESPIRATORY BLEND*

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : OIL, RESPIRATORY BLEND*
CAS-No. : N/A
Product code : 91-1038-92A

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 3	Flammable liquid and vapor
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 2	Causes serious eye irritation
Skin sensitization, Category 1	May cause an allergic skin reaction
Carcinogenicity Category 2	Suspected of causing cancer
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
Specific target organ toxicity (repeated exposure) Category 1	Causes 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 precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs
Causes damage to organs through prolonged or repeated exposure

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.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.

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Use only non-sparking tools.
Take precautionary measures against static discharge.
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.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
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.
If eye irritation persists: 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
Eucalyptol	(CAS-No.) 470-82-6	25 – 50	Flam. Liq. 3, H226 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
MENTHOL	(CAS-No.) 89-78-1	5 – 10	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2B, H320
ALPHA-PINENE	(CAS-No.) 80-56-8	5 – 10	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
ALPHA-TERPINEOL	(CAS-No.) 98-55-5	5 – 10	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319
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
L-MENTHONE	(CAS-No.) 14073-97-3	1 – 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317
LINALOOL	(CAS-No.) 78-70-6	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
GERANIAL	(CAS-No.) 141-27-5	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, 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
NERAL	(CAS-No.) 106-26-3	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
p-Cymene	(CAS-No.) 99-87-6	1 – 5	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation:vapour), H331 Repr. 2, H361 Asp. Tox. 1, H304
D,L-Limonene	(CAS-No.) 138-86-3	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304
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
CAMPHOR	(CAS-No.) 464-49-3	1 – 5	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 STOT RE 1, H372
GAMMA-TERPINENE	(CAS-No.) 99-85-4	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304
GERANIOL	(CAS-No.) 106-24-1	0.1 – 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
D-PULEGONE	(CAS-No.) 89-82-7	0.1 – 1	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Carc. 2, H351

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.

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First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
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	: Eye irritation.
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	: Flammable liquid and vapor.
Reactivity	: Flammable liquid and vapor.

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. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OIL, RESPIRATORY BLEND* (N/A)	
No additional information available	
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
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	
l-Limonene (5989-54-8)	
No additional information available	
delta-3-Carene (13466-78-9)	
No additional information available	
GAMMA-TERPINENE (99-85-4)	
No additional information available	
p-Cymene (99-87-6)	
No additional information available	
LINALOOL (78-70-6)	
No additional information available	
GERANIOL (106-24-1)	
No additional information available	
GERANIAL (141-27-5)	
No additional information available	
NERAL (106-26-3)	
No additional information available	
D,L-Limonene (138-86-3)	
No additional information available	
L-MENTHONE (14073-97-3)	
No additional information available	
D-PULEGONE (89-82-7)	
No additional information available	
MENTHOL (89-78-1)	
No additional information available	
CAMPHOR (464-49-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	2 ppm (Camphor, synthetic; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH OEL STEL [ppm]	3 ppm (Camphor, synthetic; USA; Short time value; TLV - Adopted Value)

8.2. Appropriate engineering controls

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

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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	: PALE YELLOW/AMBER TO YELLOW/AMBER
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	: 52 °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	: 0.907 (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

Flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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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
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
Eucalyptol (470-82-6)	
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
4-Carvomenthenol (562-74-3)	
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
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
GAMMA-TERPINENE (99-85-4)	
ATE US (oral)	3850 mg/kg body weight
p-Cymene (99-87-6)	
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
LINALOOL (78-70-6)	
ATE US (oral)	2790 mg/kg body weight
GERANIOL (106-24-1)	
ATE US (oral)	3600 mg/kg body weight

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GERANIAL (141-27-5)	
ATE US (dermal)	2250 mg/kg body weight
NERAL (106-26-3)	
ATE US (dermal)	2250 mg/kg body weight
L-MENTHONE (14073-97-3)	
ATE US (oral)	500 mg/kg body weight
D-PULEGONE (89-82-7)	
ATE US (oral)	470 mg/kg body weight
ATE US (dermal)	3090 mg/kg body weight
MENTHOL (89-78-1)	
ATE US (oral)	2500 mg/kg body weight
CAMPHOR (464-49-3)	
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)	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

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

D-PULEGONE (89-82-7)	
IARC group	2B - Possibly carcinogenic to humans

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

STOT-single exposure : May cause damage to organs.

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

CAMPHOR (464-49-3)	
STOT-single exposure	May cause damage to organs.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

ALPHA-TERPINEOL (98-55-5)	
NOAEL (oral,rat,90 days)	≥ 314 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Eucalyptol (470-82-6)	
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)

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CAMPHOR (464-49-3)	
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:
STOT-repeated exposure	Causes 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	: Eye irritation.
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.
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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)

ALPHA-TERPINEOL (98-55-5)	
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

Eucalyptol (470-82-6)	
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)

p-Cymene (99-87-6)	
LC50 - Fish [1]	48 mg/l (EPA OPPTS 850.1075, 96 h, Cyprinodon variegatus, Static system, Salt water, Experimental value)
EC50 - Crustacea [1]	3.7 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)
ErC50 algae	4.03 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)

CAMPHOR (464-49-3)	
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

12.2. Persistence and degradability

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

Eucalyptol (470-82-6)	
Persistence and degradability	Readily biodegradable in water.

l-Limonene (5989-54-8)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O ₂ /g substance

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

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CAMPHOR (464-49-3)	
Persistence and degradability	Readily biodegradable in water.
ThOD	2.8 g O ₂ /g substance

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).

Eucalyptol (470-82-6)	
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).

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

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

CAMPHOR (464-49-3)	
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.

Eucalyptol (470-82-6)	
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.

I-Limonene (5989-54-8)	
Ecology - soil	Adsorbs into the soil.

p-Cymene (99-87-6)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Low potential for mobility 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.
Additional information : Flammable vapors may accumulate in the container.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN1266 Perfumery products (Regulated for Bulk only), 3, III
UN-No.(DOT)	: UN1266
Proper Shipping Name (DOT)	: Perfumery products (Regulated for Bulk only)
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
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

Transport document description (TDG)	: UN1266 PERFUMERY PRODUCTS (Regulated for Bulk only), 3, III
UN-No. (TDG)	: UN1266
Proper Shipping Name (TDG)	: PERFUMERY PRODUCTS
TDG Primary Hazard Classes	: 3 - Class 3 - Flammable Liquids
Packing group (TDG)	: III - Minor Danger
TDG Special Provisions	: 59 - Substances that are listed by name in Schedule 1 must not be transported under this shipping name. Substances transported under this shipping name may contain not more than 20% nitrocellulose if the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).
Explosive Limit and Limited Quantity Index	: 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 60 L

Transport by sea

Transport document description (IMDG)	: UN 1266 PERFUMERY PRODUCTS, 3, III
UN-No. (IMDG)	: 1266
Proper Shipping Name (IMDG)	: PERFUMERY PRODUCTS

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Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 1266 Perfumery products, 3, III
UN-No. (IATA)	: 1266
Proper Shipping Name (IATA)	: Perfumery products
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

CAMPHOR (464-49-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

ALPHA-PINENE (80-56-8)

Listed on the Canadian DSL (Domestic Substances List)

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)

I-Limonene (5989-54-8)

Listed on the Canadian DSL (Domestic Substances List)

delta-3-Carene (13466-78-9)

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)

GERANIOL (106-24-1)

Listed on the Canadian DSL (Domestic Substances List)

GERANIAL (141-27-5)

Listed on the Canadian DSL (Domestic Substances List)

NERAL (106-26-3)

Listed on the Canadian DSL (Domestic Substances List)

D,L-Limonene (138-86-3)

Listed on the Canadian DSL (Domestic Substances List)

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L-MENTHONE (14073-97-3)

Listed on the Canadian DSL (Domestic Substances List)

D-PULEGONE (89-82-7)

Listed on the Canadian DSL (Domestic Substances List)

MENTHOL (89-78-1)

Listed on the Canadian DSL (Domestic Substances List)

CAMPHOR (464-49-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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)

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)

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)

I-Limonene (5989-54-8)

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

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)

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)

GERANIOL (106-24-1)

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

GERANIAL (141-27-5)

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

NERAL (106-26-3)

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

D,L-Limonene (138-86-3)

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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L-MENTHONE (14073-97-3)

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

D-PULEGONE (89-82-7)

Listed on IARC (International Agency for Research on Cancer)

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

MENTHOL (89-78-1)

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 safrole, 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 estragole, which is known to the State of California to cause cancer. For more information go to 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.

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
p-Cymene(99-87-6)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List
D,L-Limonene(138-86-3)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

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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
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure

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.