

Safety Data Sheet

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

Issue date: 05/18/2020 Revision date: 11/01/2024 Supersedes: 05/18/2020

SECTION 1: Identification

Identification

Product form : Mixture

Product name OIL, ROSEMARY MINT EO BLEND*

CAS-No. N/A Product code 94-4009-37

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

Classification of the substance or mixture

GHS US classification

Flammable liquids Category 3 Acute toxicity (oral) Category 4 Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 1 Skin sensitization, Category 1

Carcinogenicity Category 2 Reproductive toxicity Category 2

Specific target organ toxicity (single exposure) Category 2

Aspiration hazard Category 1

Flammable liquid and vapor

Harmful if swallowed Causes skin irritation

Causes serious eye damage May cause an allergic skin reaction Suspected of causing cancer

Suspected of damaging fertility or the unborn child

May cause damage to organs

May be fatal if swallowed and enters airways

GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



GHS02

GHS05



GHS07



Version: 1.4

Signal word (GHS US) : Danger

Flammable liquid and vapor Hazard statements (GHS US)

Harmful if swallowed

May be fatal if swallowed and enters airways

Causes skin irritation

May cause an allergic skin reaction Causes serious eye damage Suspected of causing cancer

Suspected of damaging fertility or the unborn child

May cause damage to organs

Obtain special instructions before use. Precautionary statements (GHS US)

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.

Use only non-sparking tools.

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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 swallowed: Call a poison center or doctor if you feel unwell.

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.

Immediately call a poison center or doctor.

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

Rinse mouth.

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
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	10 – 25	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
L-MENTHONE	(CAS-No.) 14073-97-3	5 – 10	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317
BETA-PINENE	(CAS-No.) 127-91-3	5 – 10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
CAMPHOR	(CAS-No.) 76-22-2	5 – 10	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
BETA-CARYOPHYLLENE	(CAS-No.) 87-44-5	1 – 5	Skin Sens. 1B, H317 Asp. Tox. 1, H304
CAMPHENE	(CAS-No.) 79-92-5	1 – 5	Flam. Sol. 2, H228 Eye Irrit. 2B, H320
I-Limonene	(CAS-No.) 5989-54-8	1 – 5	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-OL*	(CAS-No.) 464-45-9	1 – 5	Flam. Sol. 1, H228 Skin Irrit. 2, H315
BETA-MYRCENE	(CAS-No.) 123-35-3	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Asp. Tox. 1, H304
ALPHA-TERPINEOL	(CAS-No.) 98-55-5	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
ISOMENTHONE	(CAS-No.) 491-07-6	1 – 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Skin Sens. 1B, H317
(+)-Neomenthol	(CAS-No.) 2216-52-6	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
P-CYMENE	(CAS-No.) 99-87-6	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:vapour), H331 Repr. 2, H361 Asp. Tox. 1, H304
PULEGONE	(CAS-No.) 89-82-7	0.1 – 1	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Carc. 2, H351
DELTA-3-CARENE	(CAS-No.) 13466-78-9	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304
ALPHA-TERPINENE	(CAS-No.) 99-86-5	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 Skin Sens. 1, H317 Asp. Tox. 1, H304
GAMMA-TERPINENE	(CAS-No.) 99-85-4	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304

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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 : 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. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation : No data available.

Symptoms/effects after skin contact : None under normal conditions. Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes. 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.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor.

Explosion hazard : No direct explosion hazard.

Reactivity : Flammable liquid and vapor.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

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

apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb

spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe

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

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters.

Other information : Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

: Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling

: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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

: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

: Ground/bond container and receiving equipment.

Storage conditions
Packaging materials

: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

	OIL, ROSEMARY MINT EO BLEND* (N/A)
	No additional information available
	ALPHA-PINENE (80-56-8)

No additional information available

ALPHA-TERPINEOL (98-55-5)

No additional information available

BETA-PINENE (127-91-3)

No additional information available

CAMPHENE (79-92-5)

No additional information available

BETA-MYRCENE (123-35-3)

No additional information available

EUCALYPTOL (470-82-6)

No additional information available

I-Limonene (5989-54-8)

No additional information available

GAMMA-TERPINENE (99-85-4)

No additional information available

ISOMENTHONE (491-07-6)

No additional information available

P-CYMENE (99-87-6)

No additional information available

ALPHA-TERPINENE (99-86-5)

No additional information available

L-MENTHONE (14073-97-3)

No additional information available

(+)-Neomenthol (2216-52-6)

No additional information available

PULEGONE (89-82-7)

No additional information available

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MENTHOL (89-78-1)

No additional information available

BETA-CARYOPHYLLENE (87-44-5)

No additional information available

CAMPHOR (76-22-2)

No additional information available

DELTA-3-CARENE (13466-78-9)

No additional information available

1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-OL* (464-45-9)

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

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : COLORLESS 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 : 51 °C

Relative evaporation rate (butyl acetate=1) : No data available
Flammability : Not applicable.

Vapor pressure : No data available
Relative vapor density at 20°C : No data available
Relative density : 0.908 (0.898 – 0.918)

Solubility : Insoluble.

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Partition coefficient n-octanol/water (Log Pow) : No data available : No data available Auto-ignition temperature 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 : 1.465 (1.455 – 1.475)

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.

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) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

ATE US (oral)	1840.712 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))

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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

RETA_DINENE (127.91_3)	
ATE US (oral)	4300 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 oral rat	(Acute Oral Toxicity), 95% CL: 2900 - 5700

BETA-PINENE (127-91-3)	
LD50 oral rat	4700 mg/kg (Rat, Oral)
ATE US (oral)	4700 mg/kg body weight
CAMPHENE (79-92-5)	

LD50 dermal rabbit	> 2000 mg/kg body weight (Rabbit, Read-across, Skin)
BETA-MYRCENE (123-35-3)	
LD50 oral rat	> 11390 mg/kg body weight Animal: rat
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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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
GAMMA-TERPINENE (99-85-4)	
ATE US (oral)	3650 mg/kg body weight
ISOMENTHONE (491-07-6)	
ATE US (oral)	1690 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
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 (gases)	700 ppmV/4h
ATE US (vapors)	9.7 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
ALPHA-TERPINENE (99-86-5)	
ATE US (oral)	1680 mg/kg body weight
L-MENTHONE (14073-97-3)	
ATE US (oral)	500 mg/kg body weight
(+)-Neomenthol (2216-52-6)	
ATE US (oral)	2500 mg/kg body weight
ATE US (dust, mist)	5.3 mg/l/4h
PULEGONE (89-82-7)	
ATE US (oral)	470 mg/kg body weight
ATE US (dermal)	3090 mg/kg body weight
,	5000 mg/kg body weight
MENTHOL (89-78-1) ATE US (oral)	2500 mg/kg body weight
ATE US (dust, mist)	5.3 mg/l/4h
, ,	3.3 Hg/l/4H
CAMPHOR (76-22-2)	
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
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
kin corrosion/irritation	: Causes skin irritation.
erious eye damage/irritation	: Causes serious eye damage.
espiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
BETA-MYRCENE (123-35-3)	
IARC group	2B - Possibly carcinogenic to humans
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PULEGONE (89-82-7)	OD Describbe consists to be seen
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.
CAMPHOR (76-22-2)	
STOT-single exposure	May cause damage to organs.
STOT-repeated exposure	: Not classified
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)
BETA-MYRCENE (123-35-3)	
LOAEL (oral,rat,90 days)	250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (subchronic,oral,animal/male,90 days)	500 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (subchronic,oral,animal/female,90 days)	250 mg/kg body weight Animal: mouse, Animal sex: female, 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)
·	: May be fatal if swallowed and enters airways.
3 .	: No data available
, ,	: No data available.
	: None under normal conditions. Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
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, Semistatic 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	

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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)	
CAMPHENE (79-92-5)		
LC50 - Fish [1]	0.72 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Flow-through system, Fresh water, Experimental value, GLP)	
EC50 - Crustacea [1]	0.72 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semistatic system, Fresh water, Experimental value, GLP)	
BETA-MYRCENE (123-35-3)		
EC50 - Crustacea [1]	1.47 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)	
I-Limonene (5989-54-8)		
LC50 - Fish [1]	0.71 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Similar product)	
EC50 - Crustacea [1]	0.36 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Similar product)	
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, Semistatic 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.		
CAMPHENE (79-92-5)			
Persistence and degradability	Not readily biodegradable in water.		
BETA-MYRCENE (123-35-3)	BETA-MYRCENE (123-35-3)		
Persistence and degradability	Readily biodegradable in water.		
EUCALYPTOL (470-82-6)	EUCALYPTOL (470-82-6)		
Persistence and degradability	Readily biodegradable in water.		
I-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.		

12.3. Bioaccumulative potential

ALPHA-PINENE (80-56-8)	
BCF - Other aquatic organisms [1]	1233.1 – 1248 I/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)

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ALPHA-PINENE (80-56-8)			
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).		
CAMPHENE (79-92-5)			
BCF - Fish [1]	432 – 1290 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Fresh water, Experimental value)		
Partition coefficient n-octanol/water (Log Pow)	4.22 (Experimental value, Equivalent or similar to OECD 117, 37 °C)		
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).		
BETA-MYRCENE (123-35-3)			
Partition coefficient n-octanol/water (Log Pow)	5.285 (Literature, 25 °C)		
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).		
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)			
BCF - Fish [1]	683 l/kg (Calculated value)		
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).		
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).		

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.	
CAMPHENE (79-92-5)		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.081 (log Koc, SRC PCKOCWIN v1.66, Calculated value)	
Ecology - soil	Low potential for mobility in soil.	
BETA-MYRCENE (123-35-3)		
Ecology - soil	No (test)data on mobility of the substance available.	
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)		
Surface tension	No data available in the literature	
Ecology - soil	Low potential for mobility in soil.	

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P-CYMENE (99-87-6)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.17 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Low potential for mobility in soil.

Other adverse effects

No additional information available

SECTION 13: Disposal considerations

Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.

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

: Disposal must be done according to official regulations. Sewage disposal recommendations Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Flammable vapors may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

: UN1266 Perfumery products (Regulated for Bulk only), 3, III Transport document description (DOT)

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) DOT Quantity Limitations Passenger aircraft/rail : 60 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L

CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel.

Emergency Response Guide (ERG) Number : 127

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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 : 60 L

Carrying Railway Vehicle Index

Transport by sea

Transport document description (IMDG) : UN 1266 PERFUMERY PRODUCTS, 3, III

UN-No. (IMDG) : 1266

Proper Shipping Name (IMDG) : PERFUMERY PRODUCTS
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 - Low danger

SECTION 15: Regulatory information

15.1. US Federal regulations

1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-OL* (464-45-9)

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)

BETA-PINENE (127-91-3)

Listed on the Canadian DSL (Domestic Substances List)

CAMPHENE (79-92-5)

Listed on the Canadian DSL (Domestic Substances List)

BETA-MYRCENE (123-35-3)

Listed on the Canadian DSL (Domestic Substances List)

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EUCALYPTOL (470-82-6)

Listed on the Canadian DSL (Domestic Substances List)

I-Limonene (5989-54-8)

Listed on the Canadian DSL (Domestic Substances List)

GAMMA-TERPINENE (99-85-4)

Listed on the Canadian DSL (Domestic Substances List)

ISOMENTHONE (491-07-6)

Listed on the Canadian DSL (Domestic Substances List)

P-CYMENE (99-87-6)

Listed on the Canadian DSL (Domestic Substances List)

ALPHA-TERPINENE (99-86-5)

Listed on the Canadian DSL (Domestic Substances List)

L-MENTHONE (14073-97-3)

Listed on the Canadian DSL (Domestic Substances List)

(+)-Neomenthol (2216-52-6)

Listed on the Canadian DSL (Domestic Substances List)

PULEGONE (89-82-7)

Listed on the Canadian DSL (Domestic Substances List)

MENTHOL (89-78-1)

Listed on the Canadian DSL (Domestic Substances List)

BETA-CARYOPHYLLENE (87-44-5)

Listed on the Canadian DSL (Domestic Substances List)

CAMPHOR (76-22-2)

Listed on the Canadian DSL (Domestic Substances List)

DELTA-3-CARENE (13466-78-9)

Listed on the Canadian DSL (Domestic Substances List)

1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-OL* (464-45-9)

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)

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)

CAMPHENE (79-92-5)

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

BETA-MYRCENE (123-35-3)

Listed on IARC (International Agency for Research on Cancer)

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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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)

I-Limonene (5989-54-8)

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)

ISOMENTHONE (491-07-6)

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

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)

ALPHA-TERPINENE (99-86-5)

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

L-MENTHONE (14073-97-3)

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

(+)-Neomenthol (2216-52-6)

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

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)

BETA-CARYOPHYLLENE (87-44-5)

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

CAMPHOR (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)

DELTA-3-CARENE (13466-78-9)

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

15.3. US State regulations

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

▲ WARNING:

This product can expose you to 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 beta-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
CAMPHOR(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

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SECTION 16: Other information

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Full text of H-phrases:

Flammable liquid and vapor
Combustible liquid
Flammable solid
Harmful if swallowed
May be fatal if swallowed and enters airways
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye damage
Causes serious eye irritation
Causes eye irritation
Toxic if inhaled
Harmful if inhaled
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs

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.

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