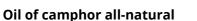
acc. to Regulation (EC) No. 1907/2006 (REACH)





date of compilation: 2021-04-30

Revision: 2024-03-04

article number: **3357** Version: **2.0 en** Replaces version of: 2021-04-30 Version: (1)

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

| Identification of the substance | Oil of camphor all-natural |
|---------------------------------|----------------------------|
| Article number | 3357 |
| EC number | 616-922-7 |
| CAS number | 8008-51-3 |
| | |

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

| Name | Street | Postal code/city | Telephone | Website |
|--|-----------|----------------------|--------------|---------|
| National Poisons Information Service City Hospital | Dudley Rd | B187QH Birmingham | 844 892 0111 | |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

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| Section | Hazard class | Cat- egory | Hazard class and category | Hazard statement |
|---------|---|---------------|---------------------------|---------------------|
| 2.6 | Flammable liquid | 3 | Flam. Liq. 3 | H226 |
| 3.2 | Skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | Serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |
| 3.4S | Skin sensitisation | 1 | Skin Sens. 1 | H317 |
| 3.10 | Aspiration hazard | 1 | Asp. Tox. 1 | H304 |
| 4.1C | Hazardous to the aquatic environment - chronic hazard | 2 | Aquatic Chronic 2 | H411 |

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS02, GHS07, GHS08, GHS09

Hazard statements

| H226 | Flammable liquid and vapour |
|------|---|
| 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 |
| H411 | Toxic to aquatic life with long lasting effects |

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Precautionary statements - response

| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor |
|----------------|---|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact |
| | lenses, if present and easy to do. Continue rinsing |

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2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

| Name of substance | Oil of camphor |
|-------------------|-------------------------------------|
| Molecular formula | C ₃₀ H ₅₀ O |
| Molar mass | 426,7 ^g / _{mol} |
| CAS No | 8008-51-3 |
| EC No | 616-922-7 |

Impurities/additives/constituents:

| Name of substance | Identifier | Wt% |
|-------------------|--------------------------|---------|
| Eucalyptol | CAS No 470-82-6 | 25 – 50 |
| | EC No 207-431-5 | |
| DL-Limonene | CAS No 138-86-3 | 10 – 25 |
| | EC No 205-341-0 | |
| | Index No 601-029-00-7 | |
| p-Cymene | CAS No 99-87-6 | 10 – 25 |
| | EC No 202-796-7 | |
| | Index No 601-094-00-1 | |
| ß-Phellandrene | CAS No 555-10-2 | 5 – 10 |
| | EC No 209-081-9 | |
| α-Phellandren | CAS No 99-83-2 | 5 - 10 |
| | EC No 202-792-5 | |
| y-Terpinene | CAS No 99-85-4 | 5 - 10 |
| | EC No 202-794-6 | |
| | | |
| | | |



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| Name of substance | Identifier | Wt% |
|-------------------|--------------------------|-------|
| α-Terpinene | CAS No 99-86-5 | 1 – 5 |
| | EC No 202-795-1 | |
| | Index No 601-095-00-7 | |
| Myrcene | CAS No 123-35-3 | 1 – 5 |
| | EC No 204-622-5 | |
| ß-Pinene | CAS No 127-91-3 | 1 – 5 |
| | EC No 204-872-5 | |
| DL-a-Pinene | CAS No 80-56-8 | 1 – 5 |
| | EC No 201-291-9 | |

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Call a physician immediately. Observe aspiration hazard if vomiting occurs.

4.2 Most important symptoms and effects, both acute and delayed

Aspiration hazard, Irritation, Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed none

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SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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6.4 Reference to other sections

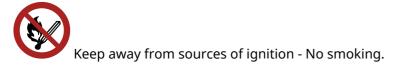
Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Measures to prevent fire as well as aerosol and dust generation



Take precautionary measures against static discharge.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ground/bond container and receiving equipment.

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

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| Relevant DNELs of components | | | | | | |
|------------------------------|----------|---------------|-----------------------------|--|-------------------|-----------------------------|
| Name of sub- stance | CAS No | End- point | Threshol d level | Protection goal, route of exposure | Used in | Exposure time |
| Eucalyptol | 470-82-6 | DNEL | 7,05 mg/ m ³ | human, inhalat- ory | worker (industry) | chronic - system effects |
| Eucalyptol | 470-82-6 | DNEL | 2 mg/kg bw/day | human, dermal | worker (industry) | chronic - system effects |
| y-Terpinene | 99-85-4 | DNEL | 2,939 mg/ m ³ | human, inhalat- ory | worker (industry) | chronic - system effects |
| γ-Terpinene | 99-85-4 | DNEL | 0,833 mg/ kg bw/day | human, dermal | worker (industry) | chronic - system effects |
| α-Terpinene | 99-86-5 | DNEL | 2,939 mg/ m ³ | human, inhalat- ory | worker (industry) | chronic - system effects |
| α-Terpinene | 99-86-5 | DNEL | 0,833 mg/ kg bw/day | human, dermal | worker (industry) | chronic - system effects |
| ß-Pinene | 127-91-3 | DNEL | 5,69 mg/ m ³ | human, inhalat- ory | worker (industry) | chronic - system effects |
| ß-Pinene | 127-91-3 | DNEL | 0,8 mg/kg bw/day | human, dermal | worker (industry) | chronic - system effects |
| ß-Pinene | 127-91-3 | DNEL | 54 µg/cm² | human, dermal | worker (industry) | chronic - local et fects |
| DL-a-Pinene | 80-56-8 | DNEL | 3,8 mg/m ³ | human, inhalat- ory | worker (industry) | chronic - system effects |
| DL-α-Pinene | 80-56-8 | DNEL | 0,542 mg/ kg bw/day | human, dermal | worker (industry) | chronic - system effects |

Relevant PNECs of components

| • | | | | | | |
|------------------------|----------|---------------|--|----------------------------|---------------------------------|---------------------------------|
| Name of sub- stance | CAS No | End- point | Threshol d level | Organism | Environmental compartment | Exposure time |
| Eucalyptol | 470-82-6 | PNEC | 57 ^{µg} / _l | aquatic organ- isms | freshwater | short-term (single instance) |
| Eucalyptol | 470-82-6 | PNEC | 5,7 ^{µg} / _l | aquatic organ- isms | marine water | short-term (single instance) |
| Eucalyptol | 470-82-6 | PNEC | 10 ^{mg} / _l | aquatic organ- isms | sewage treatment plant (STP) | short-term (single instance) |
| Eucalyptol | 470-82-6 | PNEC | 1,425 ^{mg} / kg | aquatic organ- isms | freshwater sedi- ment | short-term (single instance) |
| Eucalyptol | 470-82-6 | PNEC | 0,142 ^{mg} / _{kg} | aquatic organ- isms | marine sediment | short-term (single instance) |
| Eucalyptol | 470-82-6 | PNEC | 0,25 ^{mg} / _{kg} | terrestrial organ- isms | soil | short-term (single instance) |
| γ-Terpinene | 99-85-4 | PNEC | 0,003 ^{mg} / _l | aquatic organ- isms | freshwater | short-term (single instance) |
| γ-Terpinene | 99-85-4 | PNEC | 0 ^{mg} / _l | aquatic organ- isms | marine water | short-term (single instance) |
| y-Terpinene | 99-85-4 | PNEC | 10 ^{mg} / _l | aquatic organ- isms | sewage treatment plant (STP) | short-term (single instance) |

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| Name of sub- | CAS No | End- | Threshol | Organism | Environmental | Exposure time |
|--------------|----------|-------|--|----------------------------|---------------------------------|-------------------------------|
| stance | | point | d level | | compartment | |
| y-Terpinene | 99-85-4 | PNEC | 0,49 ^{mg} / _{kg} | aquatic organ- isms | freshwater sedi- ment | short-term (sing instance) |
| y-Terpinene | 99-85-4 | PNEC | 0,049 ^{mg} / _{kg} | aquatic organ- isms | marine sediment | short-term (sing instance) |
| y-Terpinene | 99-85-4 | PNEC | 0,423 ^{mg} / kg | terrestrial organ- isms | soil | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 1,004 ^{µg} / _l | aquatic organ- isms | freshwater | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 0,1 ^{µg} / _l | aquatic organ- isms | marine water | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 3,26 ^{mg} / _l | aquatic organ- isms | sewage treatment plant (STP) | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 0,337 ^{mg} / _{kg} | aquatic organ- isms | freshwater sedi- ment | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 0,034 ^{mg} / kg | aquatic organ- isms | marine sediment | short-term (sing instance) |
| ß-Pinene | 127-91-3 | PNEC | 0,067 ^{mg} / kg | terrestrial organ- isms | soil | short-term (sing instance) |
| DL-α-Pinene | 80-56-8 | PNEC | 0,606 ^{µg} / _l | aquatic organ- isms | freshwater | short-term (sing instance) |
| DL-α-Pinene | 80-56-8 | PNEC | 0,061 ^{µg} / _l | aquatic organ- isms | marine water | short-term (sing instance) |
| DL-α-Pinene | 80-56-8 | PNEC | 0,2 ^{mg} / _l | aquatic organ- isms | sewage treatment plant (STP) | short-term (sing instance) |
| DL-α-Pinene | 80-56-8 | PNEC | 157 ^{µg} / _{kg} | aquatic organ- isms | freshwater sedi- ment | short-term (sing instance) |
| DL-α-Pinene | 80-56-8 | PNEC | 15,7 ^{µg} / _{kg} | aquatic organ- isms | marine sediment | short-term (sing instance) |
| DL-a-Pinene | 80-56-8 | PNEC | 31,7 ^{µg} / _{kg} | terrestrial organ- isms | soil | short-term (sing instance) |

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



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hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 $^{\circ}$ C, colour code: Brown).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | • • |
|--|--|
| Physical state | liquid |
| Colour | colourless |
| Odour | characteristic |
| Melting point/freezing point | <-20 °C (ECHA) |
| Boiling point or initial boiling point and boiling range | 155 – 172 °C at 1.012 hPa (ECHA) |
| Flammability | flammable liquid in accordance with GHS criteria |
| Lower and upper explosion limit | not determined |
| Flash point | 45,75 °C at 101,2 kPa (ECHA) |
| Auto-ignition temperature | 250 °C at 99.324 Pa (ECHA) |
| Decomposition temperature | not relevant |
| pH (value) | not determined |
| Kinematic viscosity | not determined |

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| Solubility(ies) | |
|---|--|
| Water solubility | not determined |
| Partition coefficient | |
| Partition coefficient n-octanol/water (log value): | this information is not available |
| Vapour pressure | not determined |
| Density and/or relative density | |
| Density | 0,895 ^g / _{cm³} |
| Relative vapour density | Information on this property is not available. |
| Particle characteristics | not relevant (liquid) |
| Other safety parameters | |
| Oxidising properties | none |
| Other information | |
| Information with regard to physical hazard classes: | There is no additional information. |
| Other safety characteristics: | |
| Refractive index | 1,47 |

SECTION 10: Stability and reactivity

10.1 Reactivity

9.2

It's a reactive substance. Risk of ignition.

If heated

Risk of ignition. Vapours may form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity

| Exposure route | Endpoint | Value | Species | Method | Source |
|----------------|----------|-------------------------------------|---------|--------|--------|
| oral | LD50 | 5.100 ^{mg} / _{kg} | rat | | ECHA |

Acute toxicity of components

| Name of substance | CAS No | Exposure route | Endpoint | Value | Species |
|-------------------|----------|-------------------|----------|--------------------------------------|---------|
| Eucalyptol | 470-82-6 | oral | LD50 | 2.480 ^{mg} / _{kg} | rat |
| DL-Limonene | 138-86-3 | oral | LD50 | 5.300 ^{mg} / _{kg} | rat |
| p-Cymene | 99-87-6 | oral | LD50 | 4.750 ^{mg} / _{kg} | rat |
| p-Cymene | 99-87-6 | dermal | LD50 | >5.000 ^{mg} / _{kg} | rabbit |
| y-Terpinene | 99-85-4 | oral | LD50 | >2.000 ^{mg} / _{kg} | rat |
| y-Terpinene | 99-85-4 | dermal | LD50 | >2.000 ^{mg} / _{kg} | rat |
| α-Terpinene | 99-86-5 | oral | LD50 | 1.680 ^{mg} / _{kg} | rat |
| a-Terpinene | 99-86-5 | dermal | LD50 | >2.000 ^{mg} / _{kg} | rat |
| ß-Pinene | 127-91-3 | oral | LD50 | 4.700 ^{mg} / _{kg} | rat |
| DL-a-Pinene | 80-56-8 | dermal | LD50 | >2.000 ^{mg} / _{kg} | rat |
| DL-a-Pinene | 80-56-8 | oral | LD50 | 3.700 ^{mg} / _{kg} | rat |
| Myrcene | 123-35-3 | oral | LD50 | >3.380 ^{mg} / _{kg} | mouse |
| Myrcene | 123-35-3 | dermal | LD50 | >5.000 ^{mg} / _{kg} | rabbit |

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

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Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

aspiration hazard

• If in eyes

Causes serious eye irritation

• If inhaled

Data are not available.

• If on skin

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

| Aquatic toxicity (acute) | | | | | |
|--------------------------|----------------------------------|-----------------------|--------|------------------|--|
| Endpoint | Value | Species | Source | Exposure time | |
| LL50 | 3,7 ^{mg} / _l | fish | ECHA | 96 h | |
| EL50 | 5 ^{mg} / _l | aquatic invertebrates | ECHA | 48 h | |

| Aquatic toxicity (acute) of components | | | | | | | |
|--|----------|----------|-----------------------------------|-----------------------|------------------|--|--|
| Name of sub- stance | CAS No | Endpoint | Value | Species | Exposure time | | |
| Eucalyptol | 470-82-6 | LC50 | 57 ^{mg} /l | fish | 96 h | | |
| Eucalyptol | 470-82-6 | EC50 | >100 ^{mg} / _l | aquatic invertebrates | 48 h | | |
| Eucalyptol | 470-82-6 | ErC50 | >74 ^{mg} / _l | algae | 72 h | | |

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| Name of sub- stance | CAS No | Endpoint | Value | Species | Exposure time |
|------------------------|----------|----------|------------------------------------|--|------------------|
| DL-Limonene | 138-86-3 | EC50 | 17 ^{mg} / _l | daphnia magna | 48 h |
| DL-Limonene | 138-86-3 | LC50 | 80 ^{mg} / _l | rainbow trout (Onco- rhynchus mykiss) | 96 h |
| p-Cymene | 99-87-6 | LC50 | 48 ^{mg} / _l | fish | 96 h |
| p-Cymene | 99-87-6 | EC50 | 3,7 ^{mg} / _l | aquatic invertebrates | 48 h |
| p-Cymene | 99-87-6 | ErC50 | 4,03 ^{mg} / _l | algae | 72 h |
| y-Terpinene | 99-85-4 | EC50 | 2,792 ^{mg} / _l | fish | 96 h |
| α-Terpinene | 99-86-5 | LC50 | 3.150 ^{µg} / _l | fish | 96 h |
| α-Terpinene | 99-86-5 | EC50 | 1,7 ^{mg} / _l | aquatic invertebrates | 48 h |
| ß-Pinene | 127-91-3 | LC50 | 0,68 ^{mg} / _l | rainbow trout (Onco- rhynchus mykiss) | 96 h |
| ß-Pinene | 127-91-3 | EC50 | 1,09 ^{mg} / _l | daphnia magna | 48 h |
| ß-Pinene | 127-91-3 | ErC50 | 0,7 ^{mg} / _l | Pseudokirchneriella subcapitata | 72 h |
| DL-α-Pinene | 80-56-8 | LC50 | 0,303 ^{mg} / _l | fish | 96 h |
| DL-a-Pinene | 80-56-8 | EC50 | 0,475 ^{mg} / _l | aquatic invertebrates | 48 h |
| Myrcene | 123-35-3 | EC50 | 1,47 ^{mg} / _l | aquatic invertebrates | 48 h |
| Myrcene | 123-35-3 | EC50 | 0,31 ^{mg} / _l | algae | 72 h |
| Myrcene | 123-35-3 | ErC50 | 0,342 ^{mg} / _l | algae | 72 h |

Aquatic toxicity (chronic) of components

| Name of sub- stance | CAS No | Endpoint | Value | Species | Exposure time |
|------------------------|----------|----------|-------------------------------------|----------------|------------------|
| Eucalyptol | 470-82-6 | EC50 | >100 ^{mg} / _l | microorganisms | 3 h |
| γ-Terpinene | 99-85-4 | EC50 | >1.000 ^{mg} / _l | microorganisms | 3 h |
| α-Terpinene | 99-86-5 | EC50 | >10 ^{mg} / _l | microorganisms | 3 h |
| ß-Pinene | 127-91-3 | EC50 | 326 ^{mg} / _l | microorganisms | 3 h |

12.2 Persistence and degradability

Theoretical Oxygen Demand: 3,149 ^{mg}/_{mg} Theoretical Carbon Dioxide: 3,094 ^{mg}/_{mg}

| Degradability of components | | | | | | |
|-----------------------------|----------|------------------------------|-----------------------|------|--------|--------|
| Name of substance | CAS No | Process | Degrada- tion rate | Time | Method | Source |
| Eucalyptol | 470-82-6 | carbon dioxide generation | 82 % | 28 d | | ECHA |

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| Degradability of components | | | | | | |
|-----------------------------|----------|-----------------------|-----------------------|------|--------|--------|
| Name of substance | CAS No | Process | Degrada- tion rate | Time | Method | Source |
| p-Cymene | 99-87-6 | oxygen deple- tion | 88 % | 14 d | | ECHA |
| γ-Terpinene | 99-85-4 | oxygen deple- tion | 27 % | 28 d | | ECHA |
| α-Terpinene | 99-86-5 | oxygen deple- tion | 30 % | 14 d | | ECHA |
| ß-Pinene | 127-91-3 | oxygen deple- tion | 76 % | 28 d | | ECHA |
| DL-α-Pinene | 80-56-8 | oxygen deple- tion | 68 % | 28 d | | ECHA |
| Myrcene | 123-35-3 | oxygen deple- tion | 76 % | 28 d | | ECHA |

12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components | | | | | | |
|---|----------|-----|------------------------------|----------|--|--|
| Name of substance | CAS No | BCF | Log KOW | BOD5/COD | | |
| Eucalyptol | 470-82-6 | | 3,4 | | | |
| DL-Limonene | 138-86-3 | | 4,57 | | | |
| p-Cymene | 99-87-6 | | 4,8 (pH value: ~7, 20 °C) | | | |
| y-Terpinene | 99-85-4 | | 5,4 (25 °C) | | | |
| α-Terpinene | 99-86-5 | | 5,3 (35 °C) | | | |
| DL-α-Pinene | 80-56-8 | | 4,83 | | | |
| Myrcene | 123-35-3 | | 4,82 (pH value: ~6,5, 30 °C) | | | |

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

- HP 3 flammable
- HP 4 irritant skin irritation and eye damage
- HP 5 specific target organ toxicity (STOT)/aspiration toxicity
- HP 13 sensitising
- HP 14 ecotoxic

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information 14.1 UN number or ID number ADRRID UN 1130 IMDG-Code UN 1130 ICAO-TI UN 1130 14.2 UN proper shipping name ADRRID CAMPHOR OIL IMDG-Code CAMPHOR OIL ICAO-TI Camphor oil 14.3 Transport hazard class(es) 3 ADRRID IMDG-Code 3 3 ICAO-TI 14.4 Packing group

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| | ADRRID | III | | | | |
|------|---|--|--|--|--|--|
| | IMDG-Code | III | | | | |
| | ICAO-TI | III | | | | |
| 14.5 | Environmental hazards | hazardous to the aquatic environment | | | | |
| 14.6 | Special precautions for user | | | | | |
| | Provisions for dangerous goods (ADR) should | l be complied within the premises. | | | | |
| 14.7 | Maritime transport in bulk according to IM | | | | | |
| | The cargo is not intended to be carried in bul | k. | | | | |
| 14.8 | Information for each of the UN Model Regulations | | | | | |
| | Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additior information | | | | | |
| | Proper shipping name | CAMPHOR OIL | | | | |
| | Particulars in the transport document | UN1130, CAMPHOR OIL, 3, III, (D/E), environ- mentally hazardous | | | | |
| | Classification code | F1 | | | | |
| | Danger label(s) | 3, "Fish and tree" | | | | |
| | | | | | | |
| | Environmental hazards | Yes (hazardous to the aquatic environment) | | | | |
| | Excepted quantities (EQ) | E1 | | | | |
| | Limited quantities (LQ) | 5 L | | | | |
| | Transport category (TC) | 3 | | | | |
| | Tunnel restriction code (TRC) | D/E | | | | |
| | Hazard identification No | 30 | | | | |
| | Emergency Action Code | 3Y | | | | |
| | Regulations concerning the International (information | Carriage of Dangerous Goods by Rail (RID)Additional | | | | |
| | Classification code | F1 | | | | |
| | Danger label(s) | 3, "Fish and tree" | | | | |
| | | | | | | |
| | Environmental hazards | Yes Hazardous to water | | | | |
| | Excepted quantities (EQ) | E1 | | | | |
| | Limited quantities (LQ) | 5 L | | | | |
| | Transport category (TC) | 3 | | | | |
| | Hazard identification No | 30 | | | | |

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| International Maritime Dangerous Goods Code (IMDG) - Additional information | | | | | | |
|---|--|--|--|--|--|--|
| Proper shipping name | CAMPHOR OIL | | | | | |
| Particulars in the shipper's declaration | UN1130, CAMPHOR OIL, 3, III, 45,75°C c.c., MAR- INE POLLUTANT | | | | | |
| Marine pollutant | Yes (hazardous to the aquatic environment) | | | | | |
| Danger label(s) | 3, "Fish and tree" | | | | | |
| | | | | | | |
| Special provisions (SP) | - | | | | | |
| Excepted quantities (EQ) | E1 | | | | | |
| Limited quantities (LQ) | 5 L | | | | | |
| EmS | F-E, S-E | | | | | |
| Stowage category | A | | | | | |
| International Civil Aviation Organization (ICAO- | IATA/DGR) - Additional information | | | | | |
| Proper shipping name | Camphor oil | | | | | |
| Particulars in the shipper's declaration | UN1130, Camphor oil, 3, III | | | | | |
| Environmental hazards | Yes (hazardous to the aquatic environment) | | | | | |
| Danger label(s) | 3 | | | | | |
| | | | | | | |
| Excepted quantities (EQ) | E1 | | | | | |
| Limited quantities (LQ) | 10 L | | | | | |

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Seveso Directive

| 2012/18/EU (Seveso III) | | | | |
|-------------------------|---|---|-----|-------|
| Νο | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements | | Notes |
| E2 | environmental hazards (hazardous to the aquatic en- vironment, cat. 2) | 200 | 500 | 57) |

Notation

57) Hazardous to the Aquatic Environment in category Chronic 2

Deco-Paint Directive

| VOC content | 100 % |
|-------------|-------|
|-------------|-------|

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| Industrial Emissions Directive (IED) | |
|---|--|
| VOC content | 100 % |
| Directive on the restriction of the use of certain electronic equipment (RoHS) | hazardous substances in electrical and |
| not listed | |
| Regulation concerning the establishment of a E Register (PRTR) not listed | uropean Pollutant Release and Transfer |
| Water Framework Directive (WFD) not listed | |
| Regulation on the marketing and use of explosi not listed | ves precursors |
| Regulation on drug precursors not listed | |
| Regulation on substances that deplete the ozon not listed | ie layer (ODS) |
| Regulation concerning the export and import of not listed | f hazardous chemicals (PIC) |
| Regulation on persistent organic pollutants (PO | P) |

not listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list not listed

Restrictions according to GB REACH, Annex 17

| Dangerous substances with restrictions (GB REACH, Annex 17) | | | |
|---|--|----|----|
| Name of substance Name acc. to inventory CAS No No | | No | |
| Oil of camphor | this product meets the criteria for classi- fication in accordance with Regulation No 1272/2008/EC | | 3 |
| Oil of camphor | flammable / pyrophoric | | 40 |

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

| Country | Inventory | Status |
|---------|-----------|---------------------|
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| KR | KECI | substance is listed |

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| Country | Inventory | Status |
|---------|-----------|------------------------------|
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

Legend

| AIIC | Australian Inventory of Industrial Chemicals |
|-------|---|
| DSL | Domestic Substances List (DSL) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chémicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |
| 1507 | |

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety- relev- ant |
|---------|--|--|--------------------------|
| 1.1 | EC number: 295-980-1 | EC number: 616-922-7 | yes |
| 1.1 | CAS number: 92201-50-8 8008-51-3 | CAS number: 8008-51-3 | yes |
| 2.2 | Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger | | yes |
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |
| 2.3 | | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 14.8 | | Regulations concerning the International Car- riage of Dangerous Goods by Rail (RID)Addition- al information | yes |
| 14.8 | | Classification code: F1 | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety- relev- ant |
|---------|---|---|--------------------------|
| 14.8 | | Danger label(s): 3, "Fish and tree" | yes |
| 14.8 | | Danger label(s): change in the listing (table) | yes |
| 14.8 | | Environmental hazards: Yes Hazardous to water | yes |
| 14.8 | | Excepted quantities (EQ): E1 | yes |
| 14.8 | | Limited quantities (LQ): 5 L | yes |
| 14.8 | | Transport category (TC): 3 | yes |
| 14.8 | | Hazard identification No: 30 | yes |
| 15.1 | Restrictions according to REACH, Annex XVII | | yes |
| 15.1 | | Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table) | yes |
| 15.1 | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list: Not listed. | | yes |
| 15.1 | | National regulations(GB) | yes |
| 15.1 | | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list: not listed | yes |
| 15.1 | | Restrictions according to GB REACH, Annex 17 | yes |
| 15.1 | | Dangerous substances with restrictions (GB REACH, Annex 17): change in the listing (table) | yes |
| 15.1 | | Other information: Directive 94/33/EC on the protection of young people at work. Observe employment restric- tions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. | yes |
| 15.1 | | National inventories: change in the listing (table) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-------|--|
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road) |
| BCF | Bioconcentration factor |
| BOD | Biochemical Oxygen Demand |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| COD | Chemical oxygen demand |

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| Abbr. | Descriptions of used abbreviations |
|-----------|---|
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an ident fier of substances commercially available within the EU (European Union) |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EL50 | Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | = EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended) |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during specified time interval |
| LL50 | Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality |
| log KOW | n-Octanol/water |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail) |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |

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Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|--|
| H226 | Flammable liquid and vapour. |
| 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. |
| H411 | Toxic to aquatic life with long lasting effects. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.