



OIL, KELP*

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 1/13/2023 Revision date: 4/24/2024 Supersedes version of: 1/13/2023 Version: 1.3

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

1.1. Product identifier

Product form : Mixture
Product name : OIL, KELP*
CAS-No. : N/A
Product code : 90-2365-04
Product group : Trade product

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

The Lebermuth Company
4004 Technology Drive
46628 South Bend, IN
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: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, Category 1 H317
Hazardous to the aquatic environment – Acute Hazard, Category 1 H400
Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS09

Signal word (CLP) :

Warning

Contains :

COUMARIN CRYSTALS; ALDEHYDE C-11 (UNDECYLENIC); 2-Methylundecanal; CYCLAMENALDEHYDE; ISO CYCLOCITRAL PURE; METHOXY MELONAL; TRIPLAL, PURE; MOUSSE DE METRE; alpha-pinene; linalool; l-Limonene; Linalyl acetate

Hazard statements (CLP) :

H317 - May cause an allergic skin reaction.
H410 - Very toxic to aquatic life with long lasting effects.

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| | |
|--------------------------------|--|
| Precautionary statements (CLP) | : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P302+P352 - IF ON SKIN: Wash with plenty of water. P321 - Specific treatment (see supplemental first aid instruction on this label). P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P391 - Collect spillage. P501 - 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

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

| Component | |
|---|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7), DIOCTYL ADIPATE (103-23-1), TERPINYL ACETATE (80-26-2), 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2), PINENE (80-56-8), BETA-PINENE (127-91-3) ⁽¹⁾ , CAMPHENE (79-92-5), D-LIMONENE (5989-27-5) ⁽¹⁾ , l-Limonene (5989-54-8) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7), DIOCTYL ADIPATE (103-23-1), TERPINYL ACETATE (80-26-2), 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2), PINENE (80-56-8), BETA-PINENE (127-91-3) ⁽¹⁾ , CAMPHENE (79-92-5), D-LIMONENE (5989-27-5) ⁽¹⁾ , l-Limonene (5989-54-8) |

⁽¹⁾ Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|--|---------|---|
| DIOCTYL ADIPATE | CAS-No.: 103-23-1 EC-No.: 203-090-1 | 50 – 75 | Aquatic Acute 1, H400 |
| TERPINYL ACETATE | CAS-No.: 80-26-2 EC-No.: 201-265-7 | 5 – 10 | Aquatic Chronic 2, H411 |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde | CAS-No.: 103-95-7 EC-No.: 203-161-7 | 1 – 5 | Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 |
| DIHYDROMYRCENOL | CAS-No.: 18479-58-8 EC-No.: 242-362-4 | 1 – 5 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|--|--------------------|--|
| COUMARIN | CAS-No.: 91-64-5 EC-No.: 202-086-7 | 1 – 5 | Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| ALPHA TERPINEOL | CAS-No.: 98-55-5 EC-No.: 202-680-6 | 1 – 5 | Skin Irrit. 2, H315 Aquatic Acute 1, H400 |
| CIS-3 HEXENYL SALICYLATE | CAS-No.: 65405-77-8 EC-No.: 265-745-8 | 1 – 5 | Aquatic Acute 1, H400 Aquatic Chronic 2, H411 Repr. 2, H361 |
| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde | CAS-No.: 27939-60-2 EC-No.: 248-742-6 | 1 – 5 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411 |
| LINALOOL | CAS-No.: 78-70-6 | 0.1 – 1 | Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1B, H317 |
| LINALYL ACETATE | CAS-No.: 115-95-7 EC-No.: 204-116-4 | 0.1 – 1 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 |
| ISOCYCLOCITRAL | CAS-No.: 1335-66-6 EC-No.: 215-638-7 | 0.1 – 1 | Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 |
| 6-Methoxy-2,6-dimethylheptan-1-al | CAS-No.: 62439-41-2 EC-No.: 263-545-5 | 0.1 – 1 | Skin Sens. 1B, H317 |
| Diethylene glycol monomethyl ether | CAS-No.: 111-77-3 | 0.28125 – 0.375 | Repr. 2, H361d |
| 10-Undecenal | CAS-No.: 112-45-8 EC-No.: 203-973-1 | 0.1 – 1 | Skin Irrit. 2, H315 Skin Sens. 1B, H317 |
| PINENE substance with national workplace exposure limit(s) (BE, ES) | CAS-No.: 80-56-8 EC-No.: 201-291-9 | 0.1 – 1 | Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| CAMPHENE | CAS-No.: 79-92-5 EC-No.: 201-234-8 | 0.1 – 1 | Flam. Sol. 2, H228 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| METHYLUNDECANAL | CAS-No.: 110-41-8 EC-No.: 203-765-0 | 0.1 – 1 | Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| BETA-MYRCENE | CAS-No.: 123-35-3 EC-No.: 204-622-5 | 0.1 – 1 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--|---|---------|---|
| Methyl atrarate | CAS-No.: 4707-47-5 EC-No.: 225-193-0 | 0.1 – 1 | Skin Sens. 1B, H317 |
| l-Limonene | CAS-No.: 5989-54-8 EC-No.: 227-815-6 EC Index-No.: 601-029-00-7 | 0.1 – 1 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| BETA-PINENE substance with national workplace exposure limit(s) (BE, ES) | CAS-No.: 127-91-3 EC-No.: 204-872-5 | < 0.1 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| D-LIMONENE substance with national workplace exposure limit(s) (DE, ES) | CAS-No.: 5989-27-5 EC-No.: 227-813-5 EC Index-No.: 601-096-00-2 | < 0.1 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| LAURYL ALCOHOL substance with national workplace exposure limit(s) (DE) | CAS-No.: 112-53-8 EC-No.: 203-982-0 | < 0.1 | Aquatic Acute 1, H400 Aquatic Chronic 2, H411 |

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : If you feel unwell, seek medical advice. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Call a poison center or a doctor if you feel unwell. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|-------------------------------------|---|
| Symptoms/effects after inhalation | : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard. |
| Symptoms/effects after skin contact | : May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : None under normal conditions. |
| Symptoms/effects after ingestion | : None under normal conditions. |

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. Carbon dioxide. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

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5.2. Special hazards arising from the substance or mixture

- Fire hazard : No fire hazard.
- Explosion hazard : No direct explosion hazard.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

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

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
- 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 : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
- Methods for cleaning up : Take up liquid spill into absorbent material.
- 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

- 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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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 : Keep in a cool, well-ventilated place away from heat.
- Storage conditions : Keep cool. Protect from sunlight.
- Packaging materials : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| PINENE (80-56-8) | |
|--|---|
| Belgium - Occupational Exposure Limits | |
| Local name | Essence de térébenthine et monoterpènes sélectionés # Terpentijn en geselecteerde monoterpene |
| OEL TWA | 20 ppm |
| Regulatory reference | Koninklijk besluit/Arrêté royal 16/11/2023 |
| Spain - Occupational Exposure Limits | |
| Local name | α -pineno (monoterpeno) |
| VLA-ED (OEL TWA) | 113 mg/m ³ 20 ppm |
| Regulatory reference | Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT |
| BETA-PINENE (127-91-3) | |
| Belgium - Occupational Exposure Limits | |
| Local name | Essence de térébenthine et monoterpènes sélectionés # Terpentijn en geselecteerde monoterpene |
| OEL TWA | 20 ppm |
| Regulatory reference | Koninklijk besluit/Arrêté royal 16/11/2023 |
| Spain - Occupational Exposure Limits | |
| Local name | β -pineno (monoterpeno) |
| VLA-ED (OEL TWA) | 113 mg/m ³ 20 ppm |
| Regulatory reference | Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT |
| D-LIMONENE (5989-27-5) | |
| Germany - Occupational Exposure Limits (TRGS 900) | |
| Local name | (R)-p-Mentha-1,8-dien (D-Limonen) |
| AGW (OEL TWA) | 28 mg/m ³ 5 ppm |
| Peak exposure limitation factor | 4(II) |
| Remark | DFG,H,Sh,Y |
| Regulatory reference | TRGS900 |
| Spain - Occupational Exposure Limits | |
| Local name | d-Limoneno |
| VLA-ED (OEL TWA) | 168 mg/m ³ d-Limoneno 30 ppm d-Limoneno |

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D-LIMONENE (5989-27-5)

| | |
|----------------------|---|
| Remark | Entrada en vigor en 2018. Sen (Sensibilizante. Véase Apartado 6), Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento). |
| Regulatory reference | Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT |

LAURYL ALCOHOL (112-53-8)

Germany - Occupational Exposure Limits (TRGS 900)

| | |
|---------------|-------------------------------------|
| Local name | Dodecan-1-ol (Langkettige Alkohole) |
| AGW (OEL TWA) | 155 mg/m ³ 20 ppm |
| Remark | AGS,11 |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-------------------------|
| Physical state | : Liquid |
| Colour | : Not available |
| Odour | : Not available |
| Odour threshold | : Not available |
| Melting point | : Not applicable |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Non flammable. |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : 98 °C |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : Not available |
| Solubility | : Insoluble. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50°C | : Not available |
| Density | : Not available |
| Relative density | : 0.932 (0.922 – 0.942) |
| Relative vapour density at 20°C | : Not available |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Refractive index : 1.456 (1.446 – 1.466)

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

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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 hazard classes as defined in Regulation (EC) No 1272/2008

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

COUMARIN (91-64-5)

| | |
|-----------------|---|
| LD50 oral rat | 293 mg/kg bodyweight Animal: rat, Guideline: other: |
| LD50 dermal rat | 293 mg/kg bodyweight Animal: rat, Guideline: other: |

ALPHA TERPINEOL (98-55-5)

| | |
|-----------------|---|
| LD50 oral rat | 4300 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700 |
| LD50 oral | 4300 mg/kg bodyweight |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

CIS-3 HEXENYL SALICYLATE (65405-77-8)

| | |
|--------------------|--|
| LD50 dermal rabbit | > 2000 mg/kg bodyweight Animal: rabbit, Guideline: EU Method B.3 (Acute Toxicity (Dermal)) |
|--------------------|--|

2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7)

| | |
|-----------------|--|
| LD50 oral rat | 3810 mg/kg (Rat, Male / female, Weight of evidence, Oral, 14 day(s)) |
| LD50 oral | 3810 mg/kg bodyweight |
| LD50 dermal rat | > 5000 mg/kg (Rat, Male, Experimental value, Dermal, 14 day(s)) |

DIHYDROMYRCENOL (18479-58-8)

| | |
|-----------|------------|
| LD50 oral | 3020 mg/kg |
|-----------|------------|

DIOCTYL ADIPATE (103-23-1)

| | |
|-----------------------|--|
| LD50 oral rat | > 20000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rabbit | 16300 mg/kg bodyweight (Rabbit, Male, Experimental value, Dermal) |
| LC50 Inhalation - Rat | > 5.7 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s)) |

ISOCYCLOCITRAL (1335-66-6)

| | |
|-----------|-----------------------|
| LD50 oral | 3220 mg/kg bodyweight |
|-----------|-----------------------|

TERPINYL ACETATE (80-26-2)

| | |
|---------------|---|
| LD50 oral rat | 5075 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 4160 - 6190 |
|---------------|---|

2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2)

| | |
|---------------|---|
| LD50 oral rat | 3900 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5100 |
| LD50 oral | 3900 mg/kg bodyweight |

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| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
|---|--|
| LD50 dermal rabbit | > 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| Methyl atrarate (4707-47-5) | |
| LD50 oral rat | > 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rat | > 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| PINENE (80-56-8) | |
| LD50 oral rat | > 500 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 01 day(s)) |
| LD50 dermal rat | > 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Skin, 14 day(s)) |
| BETA-PINENE (127-91-3) | |
| LD50 oral rat | 4700 mg/kg (Rat, Oral) |
| CAMPHENE (79-92-5) | |
| LD50 oral | > 5000 mg/kg (Mouse, Male / female, Experimental value, Oral) |
| LD50 dermal rabbit | > 2000 mg/kg bodyweight (Rabbit, Read-across, Skin) |
| BETA-MYRCENE (123-35-3) | |
| LD50 oral rat | > 11390 mg/kg bodyweight Animal: rat |
| LD50 oral | > 3380 mg/kg bodyweight Animal: mouse |
| LD50 dermal rabbit | > 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| D-LIMONENE (5989-27-5) | |
| LD50 oral rat | > 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rabbit | > 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Read-across, Dermal, 7 day(s)) |
| LINALOOL (78-70-6) | |
| LD50 oral | 2790 mg/kg |
| Skin corrosion/irritation | : Not classified |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| pH | No data available in the literature |
| DIOCTYL ADIPATE (103-23-1) | |
| pH | No data available in the literature |
| TERPINYL ACETATE (80-26-2) | |
| pH | No data available in the literature |
| I-Limonene (5989-54-8) | |
| pH | No data available in the literature |
| Serious eye damage/irritation | : Not classified |

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| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
|---|---|
| pH | No data available in the literature |
| DIOCTYL ADIPATE (103-23-1) | |
| pH | No data available in the literature |
| TERPINYL ACETATE (80-26-2) | |
| pH | No data available in the literature |
| l-Limonene (5989-54-8) | |
| pH | No data available in the literature |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction. |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| COUMARIN (91-64-5) | |
| IARC group | 3 - Not classifiable |
| DIOCTYL ADIPATE (103-23-1) | |
| IARC group | 3 - Not classifiable |
| BETA-MYRCENE (123-35-3) | |
| IARC group | 2B - Possibly carcinogenic to humans |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| DIHYDROMYRCENOL (18479-58-8) | |
| STOT-single exposure | May cause drowsiness or dizziness. |
| STOT-repeated exposure | : Not classified |
| COUMARIN (91-64-5) | |
| NOAEL (subchronic, oral, animal/female, 90 days) | > 138.3 mg/kg bodyweight Animal: mouse, Animal sex: female |
| ALPHA TERPINEOL (98-55-5) | |
| NOAEL (oral, rat, 90 days) | ≥ 314 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |
| CIS-3 HEXENYL SALICYLATE (65405-77-8) | |
| NOAEL (oral, rat, 90 days) | 200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| DIOCTYL ADIPATE (103-23-1) | |
| NOAEL (oral, rat, 90 days) | 200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents) |
| TERPINYL ACETATE (80-26-2) | |
| NOAEL (oral, rat, 90 days) | ≥ 400 mg/kg bodyweight 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 bodyweight 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 bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |

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| BETA-MYRCENE (123-35-3) | |
|---|---|
| NOAEL (subchronic, oral, animal/female, 90 days) | 250 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |
| Aspiration hazard | : Not classified |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| Viscosity, kinematic | No data available in the literature |
| DIHYDROMYRCENOL (18479-58-8) | |
| Viscosity, kinematic | 12.2 mm ² /s (20 °C, OECD 114: Viscosity of Liquids) |
| DIOCTYL ADIPATE (103-23-1) | |
| Viscosity, kinematic | No data available in the literature |
| TERPINYL ACETATE (80-26-2) | |
| Viscosity, kinematic | No data available in the literature |
| PINENE (80-56-8) | |
| Viscosity, kinematic | No data available in the literature |
| BETA-PINENE (127-91-3) | |
| Viscosity, kinematic | 2.5 mm ² /s (20 °C, Calculated) |
| D-LIMONENE (5989-27-5) | |
| Viscosity, kinematic | No data available in the literature |
| I-Limonene (5989-54-8) | |
| Viscosity, kinematic | No data available in the literature |

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|--|
| Ecology - general | : Very toxic to aquatic life. Harmful to aquatic life with long lasting effects. |
| Hazardous to the aquatic environment, short-term (acute) | : Very toxic to aquatic life. |
| Hazardous to the aquatic environment, long-term (chronic) | : Harmful to aquatic life with long lasting effects. |

| COUMARIN (91-64-5) | |
|----------------------------------|--|
| LC50 - Fish [1] | 2.94 mg/l Test organisms (species): |
| LC50 - Fish [2] | 1324 mg/l Test organisms (species): |
| EC50 - Crustacea [1] | 8012 mg/l Test organisms (species): Daphnia sp. |
| EC50 96h - Algae [1] | 1452 mg/l Test organisms (species): |
| NOEC (chronic) | 0.5 mg/l Test organisms (species): Duration: '21 d' |
| NOEC chronic fish | 0.191 mg/l Test organisms (species): Duration: '30 d' |
| 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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| ALPHA TERPINEOL (98-55-5) | |
|---|---|
| EC50 72h - Algae [1] | ≈ 68 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2] | ≈ 17 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| CIS-3 HEXENYL SALICYLATE (65405-77-8) | |
| LC50 - Fish [1] | > 0.65 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| EC50 - Crustacea [1] | 0.6 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 0.61 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |
| EC50 72h - Algae [2] | 0.28 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| LC50 - Fish [1] | 1.092 mg/l (96 h, Calculated value) |
| LC50 - Fish [2] | 2.49 mg/l Test organisms (species): |
| EC50 - Crustacea [1] | 1.4 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value) |
| EC50 72h - Algae [1] | 4.3 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2] | 2.7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 96h - Algae [1] | 3.8 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate) |
| EC50 96h - Algae [2] | 2.7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| DIOCTYL ADIPATE (103-23-1) | |
| LC50 - Fish [1] | > 0.78 mg/l (EPA 660/3 - 75/009, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration) |
| EC50 - Crustacea [1] | > 500 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect) |
| LOEC (chronic) | > 0.77 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC (chronic) | ≥ 0.77 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| TERPINYL ACETATE (80-26-2) | |
| LC50 - Fish [1] | > 11 mg/l Test organisms (species): Pimephales promelas |
| EC50 - Crustacea [1] | > 10 mg/l Test organisms (species): Daphnia magna |
| ErC50 algae | 6.9 – 8.1 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP) |
| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
| LC50 - Fish [1] | 15 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Semi-static system, Fresh water, Experimental value, GLP) |
| EC50 - Crustacea [1] | 7.74 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP) |
| EC50 72h - Algae [1] | 22.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

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| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
|--|--|
| ErC50 algae | 22.8 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP) |
| Methyl atrarate (4707-47-5) | |
| LC50 - Fish [1] | 5.2 mg/l Test organisms (species): not specified |
| EC50 - Crustacea [1] | 9.3 mg/l Test organisms (species): Daphnia sp. |
| EC50 96h - Algae [1] | 3.3 mg/l Test organisms (species): other: |
| PINENE (80-56-8) | |
| LC50 - Fish [1] | 0.303 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP) |
| EC50 - Crustacea [1] | 0.475 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect) |
| BETA-PINENE (127-91-3) | |
| LC50 - Fish [1] | 0.557 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Semi-static system, Fresh water, Weight of evidence, Other isomer) |
| ErC50 algae | 0.826 mg/l (OECD 201: Alga, Growth Inhibition Test, 48 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, Other isomer) |
| 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, Semi-static system, Fresh water, Experimental value, GLP) |
| EC50 72h - Algae [1] | > 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP) |
| BETA-MYRCENE (123-35-3) | |
| EC50 - Crustacea [1] | 1.47 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 0.342 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2] | 0.31 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| D-LIMONENE (5989-27-5) | |
| LC50 - Fish [1] | 720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value) |
| LC50 - Fish [2] | 702 µg/l Test organisms (species): Pimephales promelas |
| EC50 - Crustacea [1] | 0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP) |
| EC50 - Crustacea [2] | 0.51 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 0.32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2] | 0.214 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| 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) |

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| I-Limonene (5989-54-8) | |
|---|---|
| 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) |
| EC50 96h - Algae [1] | 0.904 mg/l (ECOSAR, Algae, Flow-through system, Fresh water, Estimated value) |
| 12.2. Persistence and degradability | |
| OIL, KELP* (N/A) | |
| Persistence and degradability | Rapidly degradable |
| COUMARIN (91-64-5) | |
| Persistence and degradability | Rapidly degradable |
| 10-Undecenal (112-45-8) | |
| Persistence and degradability | Rapidly degradable |
| METHYLUNDECANAL (110-41-8) | |
| Persistence and degradability | Rapidly degradable |
| ALPHA TERPINEOL (98-55-5) | |
| Persistence and degradability | Rapidly degradable |
| CIS-3 HEXENYL SALICYLATE (65405-77-8) | |
| Persistence and degradability | Rapidly degradable |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| Persistence and degradability | Readily biodegradable in water. |
| DIHYDROMYRCENOL (18479-58-8) | |
| Persistence and degradability | Biodegradability in water: no data available. |
| DIOCTYL ADIPATE (103-23-1) | |
| Persistence and degradability | Readily biodegradable in water. |
| ISOCYCLOCITRAL (1335-66-6) | |
| Persistence and degradability | Rapidly degradable |
| 6-Methoxy-2,6-dimethylheptan-1-al (62439-41-2) | |
| Persistence and degradability | Rapidly degradable |
| TERPINYL ACETATE (80-26-2) | |
| Persistence and degradability | Readily biodegradable in water. |
| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
| Persistence and degradability | Not readily biodegradable in water. |
| Methyl atrarate (4707-47-5) | |
| Persistence and degradability | Rapidly degradable |
| Diethylene glycol monomethyl ether (111-77-3) | |
| Persistence and degradability | Rapidly degradable |
| PINENE (80-56-8) | |
| Persistence and degradability | Readily biodegradable in water. |

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| 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) | |
| Persistence and degradability | Readily biodegradable in water. |
| D-LIMONENE (5989-27-5) | |
| Persistence and degradability | Readily biodegradable in water. |
| ThOD | 3.29 g O ₂ /g substance |
| LINALOOL (78-70-6) | |
| Persistence and degradability | Rapidly degradable |
| LAURYL ALCOHOL (112-53-8) | |
| Persistence and degradability | Rapidly degradable |
| I-Limonene (5989-54-8) | |
| Persistence and degradability | Readily biodegradable in water. |
| ThOD | 3.29 g O ₂ /g substance |
| LINALYL ACETATE (115-95-7) | |
| Persistence and degradability | Rapidly degradable |
| 12.3. Bioaccumulative potential | |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| BCF - Fish [1] | 155 l/kg (Calculated value) |
| Partition coefficient n-octanol/water (Log Pow) | 3.4 (Practical experience/observation, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 35 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| DIHYDROMYRCENOL (18479-58-8) | |
| Partition coefficient n-octanol/water (Log Pow) | 3.47 (Estimated value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| DIOCTYL ADIPATE (103-23-1) | |
| BCF - Fish [1] | 27 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Fresh weight) |
| Partition coefficient n-octanol/water (Log Pow) | 8.94 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
| TERPINYL ACETATE (80-26-2) | |
| BCF - Other aquatic organisms [1] | 1100 l/kg (Literature study) |
| Partition coefficient n-octanol/water (Log Pow) | 4.4 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 30 °C) |
| Bioaccumulative potential | Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). |

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| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
|---|---|
| BCF - Other aquatic organisms [1] | 86.1 l/kg (Calculated value) |
| Partition coefficient n-octanol/water (Log Pow) | 3.1 (Experimental value, Equivalent or similar to OECD 117, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| PINENE (80-56-8) | |
| BCF - Other aquatic organisms [1] | 1233.1 – 1248 l/kg (BCFBAF v3.01, Read-across, Fresh weight) |
| Partition coefficient n-octanol/water (Log Pow) | 4.487 (Experimental value, Equivalent or similar to OECD 107, 25 °C) |
| Bioaccumulative potential | Potential for bioaccumulation (500 ≤ BCF ≤ 5000). |
| BETA-PINENE (127-91-3) | |
| BCF - Fish [1] | 1125 l/kg (BCFBAF v3.01, Pisces, Fresh water, QSAR, Other isomer) |
| Partition coefficient n-octanol/water (Log Pow) | 4.425 (Similar product, Read-across, Equivalent or similar to OECD 107, 25 °C) |
| Bioaccumulative potential | Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). |
| 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). |
| D-LIMONENE (5989-27-5) | |
| BCF - Fish [1] | 864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight) |
| Partition coefficient n-octanol/water (Log Pow) | 4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C) |
| Bioaccumulative potential | Potential for bioaccumulation (4 ≤ Log Kow ≤ 5). |
| 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). |
| 12.4. Mobility in soil | |
| 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7) | |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.05 (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 mobility in soil. |
| DIHYDROMYRCENOL (18479-58-8) | |
| Ecology - soil | No (test)data on mobility of the substance available. |
| DIOCTYL ADIPATE (103-23-1) | |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 4.56 (log Koc, SRC PCKOCWIN v2.0, QSAR) |

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| DIOCTYL ADIPATE (103-23-1) | |
|--|---|
| Ecology - soil | Low potential for mobility in soil. |
| TERPINYL ACETATE (80-26-2) | |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 2.79 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Read-across, GLP) |
| Ecology - soil | Low potential for adsorption in soil. |
| 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2) | |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 2.2 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP) |
| Ecology - soil | Low potential for adsorption in soil. |
| 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. |
| D-LIMONENE (5989-27-5) | |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
| Ecology - soil | Low potential for mobility in soil. |
| I-Limonene (5989-54-8) | |
| Surface tension | No data available in the literature |
| Ecology - soil | Low potential for mobility in soil. |

12.5. Results of PBT and vPvB assessment

| Component | |
|--|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7), DIOCTYL ADIPATE (103-23-1), TERPINYL ACETATE (80-26-2), 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2), PINENE (80-56-8), BETA-PINENE (127-91-3)(¹), CAMPHENE (79-92-5), D-LIMONENE (5989-27-5)(¹), I-Limonene (5989-54-8) |

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Component

| | |
|---|---|
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | 2-Methyl-3-(p-isopropylphenyl)propionaldehyde (103-95-7), DIOCTYL ADIPATE (103-23-1), TERPINYL ACETATE (80-26-2), 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde (27939-60-2), PINENE (80-56-8), BETA-PINENE (127-91-3)(¹), CAMPHENE (79-92-5), D-LIMONENE (5989-27-5)(¹), l-Limonene (5989-54-8) |
|---|---|

(¹) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|---|
| Regional waste regulation | : Disposal must be done according to official regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations | : Disposal must be done according to official regulations. |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations. |
| Additional information | : Do not re-use empty containers. |

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

| | |
|---------------|-----------|
| UN-No. (ADR) | : UN 3082 |
| UN-No. (IMDG) | : UN 3082 |
| UN-No. (IATA) | : UN 3082 |
| UN-No. (ADN) | : UN 3082 |
| UN-No. (RID) | : UN 3082 |

14.2. UN proper shipping name

| | |
|---------------------------------------|--|
| Proper Shipping Name (ADR) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate) |
| Proper Shipping Name (IMDG) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate) |
| Proper Shipping Name (IATA) | : Environmentally hazardous substance, liquid, n.o.s. (Diocetyl Adipate, cis-3-Hexenyl salicylate) |
| Proper Shipping Name (ADN) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate) |
| Proper Shipping Name (RID) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate) |
| Transport document description (ADR) | : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate), 9, III, (-) |
| Transport document description (IMDG) | : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate), 9, III, MARINE POLLUTANT |
| Transport document description (IATA) | : UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Diocetyl Adipate, cis-3-Hexenyl salicylate), 9, III |
| Transport document description (ADN) | : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate), 9, III |
| Transport document description (RID) | : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diocetyl Adipate, cis-3-Hexenyl salicylate), 9, III |

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 9
Danger labels (ADR) : 9



IMDG

Transport hazard class(es) (IMDG) : 9
Danger labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9
Danger labels (IATA) : 9



ADN

Transport hazard class(es) (ADN) : 9
Danger labels (ADN) : 9



RID

Transport hazard class(es) (RID) : 9
Danger labels (RID) : 9



14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

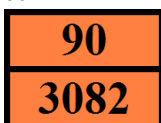
Classification code (ADR) : M6
Special provisions (ADR) : 274, 335, 375, 601

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| | |
|---|---------------------------|
| Limited quantities (ADR) | : 5I |
| Excepted quantities (ADR) | : E1 |
| Packing instructions (ADR) | : P001, IBC03, LP01, R001 |
| Special packing provisions (ADR) | : PP1 |
| Mixed packing provisions (ADR) | : MP19 |
| Portable tank and bulk container instructions (ADR) | : T4 |
| Portable tank and bulk container special provisions (ADR) | : TP1, TP29 |
| Tank code (ADR) | : LGBV |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 3 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Special provisions for carriage - Loading, unloading and handling (ADR) | : CV13 |
| Hazard identification number (Kemler No.) | : 90 |
| Orange plates | : |



| | |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : - |
| EAC code | : •3Z |

Transport by sea

| | |
|-----------------------------------|-----------------|
| Special provisions (IMDG) | : 274, 335, 969 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : LP01, P001 |
| Special packing provisions (IMDG) | : PP1 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T4 |
| Tank special provisions (IMDG) | : TP1, TP29 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-F |
| Stowage category (IMDG) | : A |

Air transport

| | |
|--|-------------------------|
| PCA Excepted quantities (IATA) | : E1 |
| PCA Limited quantities (IATA) | : Y964 |
| PCA limited quantity max net quantity (IATA) | : 30kgG |
| PCA packing instructions (IATA) | : 964 |
| PCA max net quantity (IATA) | : 450L |
| CAO packing instructions (IATA) | : 964 |
| CAO max net quantity (IATA) | : 450L |
| Special provisions (IATA) | : A97, A158, A197, A215 |
| ERG code (IATA) | : 9L |

Inland waterway transport

| | |
|-----------------------------------|----------------------|
| Classification code (ADN) | : M6 |
| Special provisions (ADN) | : 274, 335, 375, 601 |
| Limited quantities (ADN) | : 5 L |
| Excepted quantities (ADN) | : E1 |
| Carriage permitted (ADN) | : T |
| Equipment required (ADN) | : PP |
| Number of blue cones/lights (ADN) | : 0 |

Rail transport

| | |
|----------------------------------|---------------------------|
| Classification code (RID) | : M6 |
| Special provisions (RID) | : 274, 335, 375, 601 |
| Limited quantities (RID) | : 5L |
| Excepted quantities (RID) | : E1 |
| Packing instructions (RID) | : P001, IBC03, LP01, R001 |
| Special packing provisions (RID) | : PP1 |

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| | |
|---|--------------|
| Mixed packing provisions (RID) | : MP19 |
| Portable tank and bulk container instructions (RID) | : T4 |
| Portable tank and bulk container special provisions (RID) | : TP1, TP29 |
| Tank codes for RID tanks (RID) | : LGBV |
| Transport category (RID) | : 3 |
| Special provisions for carriage – Packages (RID) | : W12 |
| Special provisions for carriage - Loading, unloading and handling (RID) | : CW13, CW31 |
| Colis express (express parcels) (RID) | : CE8 |
| Hazard identification number (RID) | : 90 |

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | |
|--|---|
| Reference code | Applicable on |
| 3(b) | OIL, KELP* ; 10-Undecenal ; ALPHA TERPINEOL ; 2-Methyl-3-(p-isopropylphenyl)propionaldehyde ; DIHYDROMYRCENOL ; ISOCYCLOCITRAL ; 6-Methoxy-2,6-dimethylheptan-1-al ; 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde |
| 3(c) | OIL, KELP* ; 10-Undecenal ; CIS-3 HEXENYL SALICYLATE ; 2-Methyl-3-(p-isopropylphenyl)propionaldehyde ; ISOCYCLOCITRAL ; 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde |

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

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15.1.2. National regulations

France

| Occupational diseases | |
|-----------------------|---|
| Code | Description |
| RG 84 | Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide |

Germany

| | |
|--|--|
| Water hazard class (WGK) | : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV). |
| Hazardous Incident Ordinance (12. BImSchV) | : Is not subject to the Hazardous Incident Ordinance (12. BImSchV) |

Netherlands

| | |
|--|--|
| SZW-lijst van kankerverwekkende stoffen | : HEXENYL SALICYLATE (CIS-3), METHOXY MELONAL are listed |
| SZW-lijst van mutagene stoffen | : HEXENYL SALICYLATE (CIS-3) is listed |
| SZW-lijst van reprotoxische stoffen – Borstvoeding | : None of the components are listed |
| SZW-lijst van reprotoxische stoffen – Vruchtbaarheid | : None of the components are listed |
| SZW-lijst van reprotoxische stoffen – Ontwikkeling | : Diethylene glycol monomethyl ether is listed |

Denmark

| | |
|-----------------------------|---|
| Class for fire hazard | : Class III-1 |
| Store unit | : 50 liter |
| Classification remarks | : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed |
| Danish National Regulations | : Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

| Abbreviations and acronyms: | |
|-----------------------------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |

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Abbreviations and acronyms:

| | |
|---------|--|
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Full text of H- and EUH-statements:

| | |
|-----------------------|---|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment – Chronic Hazard, Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment – Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment – Chronic Hazard, Category 3 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Flam. Sol. 2 | Flammable solids, Category 2 |
| H226 | Flammable liquid and vapour. |
| H228 | Flammable solid. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H361d | Suspected of damaging the unborn child. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1B | Skin sensitisation, category 1B |
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Narcosis |

Safety Data Sheet (SDS), EU

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.