EarthOil
By Univar Solutions

SAFETY DATA SHEET
ORGANIC RED MANDARIN OIL

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

1.1. Product identifier

Product name ORGANIC RED MANDARIN OIL

Product number 55507

REACH registration number 01-2120074120-72-XXXX

CAS number 8008-31-9

EC number 284-521-0

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

Identified uses Cosmetics Fragrance Flavouring

1.3. Details of the supplier of the safety data sheet

Supplier

Univar
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
+44 1274 267306
SDS.EMEA@univarsolutions.com

1.4. Emergency telephone number

Emergency telephone SGS - +32 (0)3 575 55 55 (24h)

Sds No. 55507

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 3 - H226

Health hazards Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Asp. Tox. 1 - H304

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements

EC number 284-521-0

Hazard pictograms

Signal word Danger

ORGANIC RED MANDARIN OIL

Hazard statements

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing vapour/ spray.
P273 Avoid release to the environment.
P302+P352 IF ON SKIN: Wash with plenty of water.
P501 Dispose of contents/ container in accordance with national regulations.

Contains

(R)-P-MENTHA-1,8-DIENE, P-MENTHA-1,4-DIENE, 2-PINENE, CITRAL, DODECANAL, CITRONELLOL, PARA CYMENE, p-MENTHA-1,5-DIENE, PIN-2-(10) ENE, 3,7-DIMETHYLOCTA-1,3,6-TRIENE, 2,6,10-TRIMETHYLDODECA-2,6,9,11-TETRAENE, (Z)-3,7-DIMETHYLOCTA-1,3,6,-TRIENE, p-MENTHA-1,4(8)-DIENE, LINALOOL, MYRCENE, ALPHA-TERPINENE, NEROL, CARYOPHYLLENE, 3,7,7-TRIMETHYLBICYCLO[4.1.0]HEPT-3-ENE, CITRONELLAL, 8-ISOPROPYL-1,3-DIMETHYLTRICYCLO[4.4.0.02,7]DEC-3-ENE, P MENTHA 1(7) 2 DIENE, CARVACROL, 5-ISOPROPYL-2-METHYLBICYCLO[3.1.0]HEX-2-ENE, 4-ISOPROPENYLCYCLOHEX-1-ENECARBALDEHYDE

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

(R)-P-MENTHA-1,8-DIENE **30-60%**

CAS number: 5989-27-5 EC number: 227-813-5 REACH registration number: 01-2119529223-47-XXXX

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

P-MENTHA-1,4-DIENE **10-30%**

CAS number: 99-85-4 EC number: 202-794-6

Classification
Flam. Liq. 3 - H226
Repr. 2 - H361d
Asp. Tox. 1 - H304

ORGANIC RED MANDARIN OIL

2-PINENE **1-5%**

CAS number: 80-56-8 EC number: 201-291-9

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

NEROL **1-5%**

CAS number: 106-25-2 EC number: 203-378-7

Classification
Skin Irrit. 2 - H315
Eye Dam. 1 - H318
Skin Sens. 1B - H317

3,7,7-TRIMETHYLBICYCLO[4.1.0]HEPT-3-ENE **1-5%**

CAS number: 13466-78-9 EC number: 236-719-3

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

P-MENTH-1-EN-4-OL **1-5%**

CAS number: 562-74-3 EC number: 209-235-5

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319

ORGANIC RED MANDARIN OIL

DODECANAL **1-5%**

CAS number: 112-54-9 EC number: 203-983-6 REACH registration number: 01-2119969441-33-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1B - H317

CAMPHENE **1-5%**

CAS number: 79-92-5 EC number: 201-234-8

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Sol. 2 - H228
Eye Irrit. 2 - H319
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

8-ISOPROPYL-1,3-DIMETHYLTRICYCLO[4.4.0.02,7]DEC-3-ENE **1-5%**

CAS number: 3856-25-5 EC number: 223-364-4

Classification
Asp. Tox. 1 - H304

CITRONELLOL **1-5%**

CAS number: 106-22-9 EC number: 203-375-0 REACH registration number: 01-2119453995-23-XXXX

Acute Toxicity Estimate (oral):
LD_{50} 3450 mg/kg, Oral, Rat
Acute Toxicity Estimate (dermal):
LD_{50} 2650 mg/kg, Dermal, Rabbit

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

OCTANAL **1-5%**

CAS number: 124-13-0 EC number: 204-683-8 REACH registration number: 01-2119638272-38-XXXX

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Aquatic Chronic 2 - H411

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CARYOPHYLLENE **1-5%**

CAS number: 87-44-5 EC number: 201-746-1 REACH registration number: 01-2120745237-53-XXXX

Classification
Skin Sens. 1 - H317
Asp. Tox. 1 - H304
Aquatic Chronic 4 - H413

CITRAL **1-5%**

CAS number: 5392-40-5 EC number: 226-394-6 REACH registration number: 01-2119462829-23-XXXX

Acute Toxicity Estimate (oral):
LD_{50} 6800 mg/kg, Oral, Rat
Acute Toxicity Estimate (dermal):
LD_{50} 2250 mg/kg, Dermal, Rabbit

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

DECANAL **1-5%**

CAS number: 112-31-2 EC number: 203-957-4

Acute Toxicity Estimate (oral):
LD_{50} 33320 mg/kg, Oral, Rat
Acute Toxicity Estimate (dermal):
LD_{50} 5040 mg/kg, Dermal, Rabbit

Classification
Eye Irrit. 2 - H319
Aquatic Chronic 3 - H412

3,7-DIMETHYLOCTA-1,3,6-TRIENE **1-5%**

CAS number: 13877-91-3 EC number: 237-641-2

M factor (Acute) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411

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THYMOL **1-5%**

CAS number: 89-83-8 EC number: 201-944-8

Classification
Acute Tox. 4 - H302
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Aquatic Chronic 2 - H411

NONANAL **1-5%**

CAS number: 124-19-6 EC number: 204-688-5

Classification
Aquatic Chronic 3 - H412

CARVACROL **1-5%**

CAS number: 499-75-2 EC number: 207-889-6

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

4-ISOPROPENYLCYCLOHEX-1-ENECARBALDEHYDE **1-5%**

CAS number: 2111-75-3 EC number: 218-302-8

Classification
Skin Sens. 1B - H317

LINALOOL **1-5%**

CAS number: 78-70-6 EC number: 201-134-4 REACH registration number: 01-2119474016-42-XXXX

Acute Toxicity Estimate (oral):
LD_{50} 2790 mg/kg, Oral, Rat
Acute Toxicity Estimate (dermal):
LD_{50} 5610 mg/kg, Dermal, Rabbit

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1B - H317

ORGANIC RED MANDARIN OIL

p-MENTHA-1,5-DIENE **1-5%**

CAS number: 99-83-2 EC number: 202-792-5

Classification
Flam. Liq. 3 - H226
Asp. Tox. 1 - H304

OCTANOL **1-5%**

CAS number: 111-87-5 EC number: 203-917-6 REACH registration number: 01-2119486978-10-XXXX

Acute Toxicity Estimate (oral):> 5000 mg/kg
Acute Toxicity Estimate (dermal):> 2000 - < 4000 mg/kg

Classification
Eye Irrit. 2 - H319
Aquatic Chronic 3 - H412

(Z)-3,7-DIMETHYLOCTA-1,3,6,-TRIENE **1-5%**

CAS number: 3338-55-4 EC number: 222-081-3

M factor (Acute) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411

P MENTHA 1(7) 2 DIENE **1-5%**

CAS number: 555-10-2 EC number: 209-081-9

Classification
Flam. Liq. 3 - H226
Asp. Tox. 1 - H304

CITRONELLAL **1-5%**

CAS number: 106-23-0 EC number: 203-376-6

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

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2,6,10-TRIMETHYLDODECA-2,6,9,11-TETRAENE **1-5%**

CAS number: 502-61-4 EC number: 207-948-6

Classification
Asp. Tox. 1 - H304

ALPHA-TERPINENE **1-5%**

CAS number: 99-86-5 EC number: 202-795-1

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

METHYL N-METHYLANTHRANILATE **1-5%**

CAS number: 85-91-6 EC number: 201-642-6

Classification
Aquatic Chronic 3 - H412

5-ISOPROPYL-2-METHYLBICYCLO[3.1.0]HEX-2-ENE **1-5%**

CAS number: 2867-05-2 EC number: 220-686-7

Classification
Flam. Liq. 3 - H226
Skin Sens. 1 - H317

PARA CYMENE **1-5%**

CAS number: 99-87-6 EC number: 202-796-7

Classification
Flam. Liq. 3 - H226
Acute Tox. 3 - H331
Repr. 2 - H361
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

ORGANIC RED MANDARIN OIL

p-MENTHA-1,4(8)-DIENE **1-5%**

CAS number: 586-62-9 EC number: 209-578-0 REACH registration number: 01-2119982324-34-XXXX

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Skin Sens. 1B - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

1-METHYL 4-ISO PROPYL-1-CYCLOHEXEN-8-OL **1-5%**

CAS number: 98-55-5 EC number: 202-680-6 REACH registration number: 01-2119980717-23-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319

PIN-2-(10) ENE **1-5%**

CAS number: 127-91-3 EC number: 204-872-5

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Skin Sens. 1B - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

MYRCENE **1-5%**

CAS number: 123-35-3 EC number: 204-622-5

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Asp. Tox. 1 - H304

The full text for all hazard statements is displayed in Section 16.

Product name	ORGANIC RED MANDARIN OIL
REACH registration number	01-2120074120-72-XXXX
CAS number	8008-31-9
EC number	284-521-0
Composition comments	The data shown are in accordance with the latest EC Directives.

ORGANIC RED MANDARIN OIL

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if symptoms are severe or persist.

Ingestion Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Get medical attention if symptoms are severe or persist.

Skin contact Take off immediately all contaminated clothing. Wash skin thoroughly with soap and water. Continue to rinse. Get medical attention if symptoms are severe or persist.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

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

Ingestion May be fatal if swallowed and enters airways.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor Treat symptomatically. Contact specialist immediately poison treatment if large quantities have been ingested or inhaled

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon.

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

ORGANIC RED MANDARIN OIL

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. Provide adequate ventilation.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Provide adequate ventilation.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid exposure to high temperatures or direct sunlight.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

(R)-P-MENTHA-1,8-DIENE (CAS: 5989-27-5)

DNEL
Workers - Inhalation; Long term systemic effects: 66.7 mg/m³
Workers - Dermal; Long term systemic effects: 9.5 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 16.6 mg/m³
Consumer - Dermal; Long term systemic effects: 4.8 mg/kg/day
Consumer - Oral; Long term systemic effects: 4.8 mg/kg/day

PNEC
Fresh water; 14 µg/l
marine water; 1.4 µg/l
STP; 1.8 mg/l
Sediment (Freshwater); 3.85 mg/kg
Sediment (Marinewater); 0.385 mg/kg
Soil; 0.763 mg/kg

CITRAL (CAS: 5392-40-5)

DNEL
Workers - Inhalation; Long term systemic effects: 9 mg/m³
Workers - Dermal; Long term systemic effects: 1.7 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 2.7 mg/m³
Consumer - Dermal; Long term systemic effects: 1 mg/kg/day
Consumer - Oral; Long term systemic effects: 0.6 mg/kg/day

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PNEC

Fresh water; 0.007 mg/l
marine water; 0.001 mg/l
STP; 1.6 mg/l
Sediment (Freshwater); 0.125 mg/kg
Sediment (Marinewater); 0.013 mg/kg
Soil; 0.021 mg/kg

CITRONELLAL (CAS: 106-23-0)

DNEL

Workers - Dermal; Long term systemic effects: 1.7 mg/kg
Workers - Dermal; Long term local effects: 0.14 mg/cm²
Workers - Inhalation; Long term systemic effects: 9 mg/m³
Consumer - Dermal; Long term systemic effects: 1 mg/kg
Consumer - Dermal; Short term local effects: 0.14 mg/cm²
Consumer - Inhalation; Long term systemic effects: 2.7 mg/m³
Consumer - Oral; Long term systemic effects: 0.6 mg/kg

PNEC

Fresh water; 0.00868 mg/l
marine water; 0.00087 mg/l
Soil; 0.0267 mg/l
STP; 4 mg/l

CITRONELLOL (CAS: 106-22-9)

DNEL

Workers - Dermal; Long term systemic effects: 45.8 mg/kg/day
Workers - Inhalation; Long term systemic effects: 161.6 mg/m³
Workers - Dermal; Long term local effects: 29.5 mg/cm²
Consumer - Dermal; Long term systemic effects: 27.5 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 47.8 mg/m³
Consumer - Oral; Long term systemic effects: 13.8 mg/kg/day
Consumer - Dermal; Long term local effects: 29.5 mg/cm²

PNEC

- Fresh water; 0.0024 mg/l
- marine water; 0.00024 mg/l
- STP; 580 mg/l
- Sediment (Freshwater); 0.0256 mg/l
- Sediment (Marinewater); 0.00256 mg/l
- Soil; 0.00371 mg/l

DECANAL (CAS: 112-31-2)

DNEL

Industry - Inhalation; Long term systemic effects: 24.9 mg/m³
Industry - Dermal; Long term systemic effects: 7 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 6.1 mg/m³
Consumer - Dermal; Long term systemic effects: 3.5 mg/kg/day
Consumer - Oral; Long term systemic effects: 3.5 mg/kg/day

PNEC

- Fresh water; 0.00117 mg/l
- marine water; 0.000117 mg/l
- STP; 3.16 mg/l

DODECANAL (CAS: 112-54-9)

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DNEL

Workers - Inhalation; Long term systemic effects: 49.7 mg/m³
Workers - Dermal; Long term systemic effects: 14.1 mg/kg/day
Workers - Dermal, Inhalation; Long term local effects: 0,00057 mg/cm²
Consumer - Inhalation; Long term systemic effects: 12.3 mg/m³
Consumer - Dermal; Long term systemic effects: 7 mg/kg/day
Consumer - Oral; Long term systemic effects: 0.00028 mg/cm²
Consumer - Oral; Long term systemic effects: 7 mg/kg/day

PNEC

Fresh water; 0.0035 mg/l
marine water; 0.00035 mg/l
STP; 10 mg/l

LINALOOL (CAS: 78-70-6)

Ingredient comments

No exposure limits known for ingredient(s).

DNEL

Industry - Dermal; Short term systemic effects: 5 mg/kg/day
Industry - Inhalation; Short term systemic effects: 16.5 mg/m³
Industry - Dermal; Long term systemic effects: 2.5 mg/kg/day
Industry - Inhalation; Long term systemic effects: 2.8 mg/m³
Consumer - Dermal; Short term systemic effects: 2.5 mg/kg/day
Consumer - Inhalation; Short term systemic effects: 4.1 mg/m³
Consumer - Oral; Short term systemic effects: 1.2 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 0.7 mg/m³
Consumer - Oral; Long term systemic effects: 0.2 mg/kg/day
Consumer - Dermal; Short term local effects: 15 mg/cm²
Workers - Dermal; Long term local effects: 15 mg/cm²
Consumer - Dermal; Long term local effects: 15 mg/cm²

PNEC

- Fresh water; 0.2 mg/l
- marine water; 0.02 mg/l
- Sediment (Freshwater); 2.22 mg/kg
- Sediment (Marinewater); 0.222 mg/kg
- Soil; 0.327 mg/kg
- STP; > 10 mg/l

METHYL N-METHYLANTHRANILATE (CAS: 85-91-6)

DNEL

Workers - Inhalation; Long term systemic effects: 12 mg/m³
Workers - Dermal; Long term systemic effects: 3.42 mg/kg/day
General population - Inhalation; Long term systemic effects: 2.12 mg/m³
General population - Oral; Long term systemic effects: 1.22 mg/kg/day
General population - Dermal; Long term systemic effects: 1.22 mg/kg/day

PNEC

Fresh water; 12.5 µg/l
marine water; 1.25 µg/l
STP; 49.852 mg/l
Sediment (Freshwater); 0.17 mg/kg
Sediment (Marinewater); 17 µg/l
Soil; 26.7 µg/kg

OCTANAL (CAS: 124-13-0)

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DNEL

Workers - Inhalation; Long term systemic effects: 1.3 mg/m³
Workers - Dermal; Long term systemic effects: 0.37 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 0.32 mg/m³
Consumer - Dermal; Long term systemic effects: 0.19 mg/kg/day
Consumer - Oral; Long term systemic effects: 0.19 mg/kg/day

PNEC

Fresh water; 0.00154 mg/l
marine water; 0.000154 mg/l
STP; 3.16 mg/l

OCTANOL (CAS: 111-87-5)

DNEL

Workers - Dermal; Short term systemic effects: 125 mg/kg/day
Workers - Inhalation; Short term systemic effects: 220 mg/m³
Workers - Dermal; Long term systemic effects: 125 mg/kg/day
Workers - Inhalation; Long term systemic effects: 220 mg/m³
Consumer - Inhalation; Short term systemic effects: 65 mg/m³
Consumer - Oral; Short term systemic effects: 75 mg/kg/day
Consumer - Dermal; Long term systemic effects: 75 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 65 mg/m³
Consumer - Oral; Long term systemic effects: 75 mg/kg/day

PNEC

Fresh water; 0.2 mg/l
marine water; 0.02 mg/l
STP; 55.5 mg/l
Sediment (Freshwater); 2.1 mg/kg
Sediment (Marinewater); 0.21 mg/kg
Soil; 1.6 mg/kg

p-MENTHA-1,4(8)-DIENE (CAS: 586-62-9)

DNEL

Workers - Inhalation; Long term systemic effects: 5.12 mg/m³
Workers - Dermal; Long term systemic effects: 1.45 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 1.26 mg/m³
Consumer - Dermal; Long term systemic effects: 0.73 mg/kg/day
Consumer - Oral; Long term systemic effects: 0.73 mg/kg/day

PNEC

Fresh water; 5.2 µg/l
marine water; 0.52 µg/l
STP; 3 mg/l
Sediment (Freshwater); 0.581 mg/kg
Sediment (Marinewater); 58.1 mg/kg
Soil; 113 µg/l

8.2. Exposure controls

Protective equipment

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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Hand protection	The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Polyvinyl alcohol (PVA). Nitrile rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Orange. or Dark. Red.
Odour	Characteristic.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	No information available.
Flash point	49°C
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	0.845 - 0.855 @ 20°C
Bulk density	No information available.
Solubility(ies)	Insoluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	< 7 mm2/s @ 40°C

ORGANIC RED MANDARIN OIL

Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Refractive index	1.470 - 1.480
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No test data specifically related to reactivity available for this product or its ingredients.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid	Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials to avoid	Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	9,491.96

Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	No information available.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

ORGANIC RED MANDARIN OIL

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Reproductive toxicity - development No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion May be fatal if swallowed and enters airways.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact May cause temporary eye irritation.

Toxicological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} 4400 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} 5000 mg/kg, Dermal, Rabbit

Skin corrosion/irritation

Animal data No information available.

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

ORGANIC RED MANDARIN OIL

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	No information available.

Aspiration hazard

Aspiration hazard	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Inhalation	May cause respiratory system irritation.
Ingestion	Harmful: possible risk of irreversible effects if swallowed.
Skin contact	Irritating to skin. May cause sensitisation by skin contact.
Eye contact	May cause temporary eye irritation.

2-PINENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	500.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 3700 mg/kg, Oral, Rat
ATE oral (mg/kg)	500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,000.0
Species	Rat
Notes (dermal LD_{50})	LD_{50} 5000 mg/kg, Dermal, Rat
ATE dermal (mg/kg)	5,000.0

Inhalation	May cause respiratory system irritation.
Ingestion	Harmful: may cause lung damage if swallowed.
Skin contact	May cause sensitisation by skin contact.
Eye contact	Irritating to eyes.

NEROL

Acute toxicity - oral

ORGANIC RED MANDARIN OIL

Acute toxicity oral (LD_{50} mg/kg)	4,500.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 4500 mg/kg, Oral, Rat
ATE oral (mg/kg)	4,500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,001.0
Species	Rabbit
Notes (dermal LD_{50})	LD_{50} > 5000 mg/kg, Dermal, Rabbit
ATE dermal (mg/kg)	5,001.0

3,7,7-TRIMETHYLBICYCLO[4.1.0]HEPT-3-ENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	4,800.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 4800 mg/kg, Oral, Rat
ATE oral (mg/kg)	4,800.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} 1.5 mg/kg, Inhalation, Dust/Mist, Rat

P-MENTH-1-EN-4-OL

Acute toxicity - oral

ATE oral (mg/kg)	500.0

DODECANAL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	23,100.0
Species	Rat
ATE oral (mg/kg)	23,100.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rat

Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.

Respiratory sensitisation

ORGANIC RED MANDARIN OIL

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	May cause an allergic skin reaction. Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. OECD 471 Genome mutation: Negative. OECD 476

Carcinogenicity

Carcinogenicity	No information available.

Reproductive toxicity

Reproductive toxicity - fertility	No information available.
Reproductive toxicity - development	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL (90d) 2000 mg/kg, Oral, Rat

Aspiration hazard

Aspiration hazard	No information available.

Inhalation	May cause respiratory irritation.
Ingestion	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.
Skin contact	Causes skin irritation. May cause an allergic skin reaction. Symptoms following overexposure may include the following: Irritation. Redness.
Eye contact	Causes serious eye irritation.

CAMPHENE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} >5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} >2500 mg/kg, Dermal, Rabbit

Inhalation	May cause respiratory system irritation.
Ingestion	May cause stomach pain or vomiting.
Skin contact	Slightly irritating.
Eye contact	Irritating to eyes.

CITRONELLOL

ORGANIC RED MANDARIN OIL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	3,450.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 3450 mg/kg, Oral, Rat
ATE oral (mg/kg)	3,450.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,650.0
Species	Rabbit
Notes (dermal LD_{50})	LD_{50} 2650 mg/kg, Dermal, Rabbit
ATE dermal (mg/kg)	2,650.0

Skin corrosion/irritation

Skin corrosion/irritation	Irritating to skin. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation	Irritating to eyes. Rabbit

Skin sensitisation

Skin sensitisation	- Rabbit: Sensitising.

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

OCTANAL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	4,617.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 4617 mg/kg, Oral, Rat
ATE oral (mg/kg)	4,617.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,207.0
Species	Rabbit
Notes (dermal LD_{50})	LD_{50} 5207 mg/kg, Dermal, Rabbit
ATE dermal (mg/kg)	5,207.0

Skin corrosion/irritation

ORGANIC RED MANDARIN OIL

Skin corrosion/irritation	Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	No information available.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative., OECD 471 Gene mutation: Negative., OECD 476

Carcinogenicity

Carcinogenicity	No information available.

Reproductive toxicity

Reproductive toxicity - fertility	Fertility - Dose level: (3d/w) 300 mg/kg, Oral, Rat, Female Negative.
Reproductive toxicity - development	Maternal toxicity:, Developmental toxicity: - Dose level:: (3d/w) 300 mg/kg, Oral, Rat, Female, Negative. Teratogenicity: - Dose level:: (9d) 1500 mg/kg, Oral, Rat, Female, Negative.

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL > 37 mg/kg, Oral, Rat

Aspiration hazard

Aspiration hazard	No information available.

Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.

CARYOPHYLLENE

Skin sensitisation

Skin sensitisation	May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

Aspiration hazard

Aspiration hazard	May be fatal if swallowed and enters airways.

ORGANIC RED MANDARIN OIL

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

CITRAL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	6,800.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 6800 mg/kg, Oral, Rat
ATE oral (mg/kg)	6,800.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,250.0
Species	Rabbit
Notes (dermal LD_{50})	LD_{50} 2250 mg/kg, Dermal, Rabbit
ATE dermal (mg/kg)	2,250.0

Skin corrosion/irritation

Animal data	Irritating. Rabbit

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

DECANAL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	33,320.0
Species	Rat
ATE oral (mg/kg)	33,320.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,040.0
Species	Rabbit
ATE dermal (mg/kg)	5,040.0

Skin corrosion/irritation

ORGANIC RED MANDARIN OIL

Animal data	Erythema/eschar score: Well defined erythema (2).

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation. Conjunctivae score: 2 Rabbit

Respiratory sensitisation

Respiratory sensitisation	Not sensitising.

Skin sensitisation

Skin sensitisation	- Human: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. OECD 471 DNA damage and/or repair: Negative. OECD 474

Reproductive toxicity

Reproductive toxicity - fertility	This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL (90d) 20,000 mg/kg, Oral, Rat

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

THYMOL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	980.0
Species	Rat
ATE oral (mg/kg)	980.0

NONANAL

Skin corrosion/irritation

Skin corrosion/irritation	No information available.

Serious eye damage/irritation

Serious eye damage/irritation	No information available.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	No information available.

Germ cell mutagenicity

Genotoxicity - in vitro	No information available.

ORGANIC RED MANDARIN OIL

Carcinogenicity

Carcinogenicity	No information available.

Reproductive toxicity

Reproductive toxicity - fertility	No information available.
Reproductive toxicity - development	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	No information available.

Aspiration hazard

Aspiration hazard	No information available.

Inhalation	Vapour may irritate respiratory system/lungs.
Ingestion	Gastrointestinal symptoms, including upset stomach.
Skin contact	May be slightly irritating to skin.
Eye contact	May cause temporary eye irritation.

CARVACROL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	810.0
Species	Rat
ATE oral (mg/kg)	810.0

LINALOOL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,790.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 2790 mg/kg, Oral, Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,610.0
Species	Rabbit
Notes (dermal LD_{50})	LD_{50} 5610 mg/kg, Dermal, Rabbit

Skin corrosion/irritation

Skin corrosion/irritation	Irritating to skin. Rabbit

ORGANIC RED MANDARIN OIL

Serious eye damage/irritation

Serious eye damage/irritation	Slightly irritating. Rabbit

Skin sensitisation

Skin sensitisation	May cause an allergic skin reaction. - Rabbit: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

Carcinogenicity

Carcinogenicity	No information available.

Reproductive toxicity

Reproductive toxicity - fertility	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL 117 mg/kg, Oral, Rat NOAEL 250 mg/kg, Dermal, Rat

Aspiration hazard

Aspiration hazard	No information available.

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	May cause respiratory irritation.
Ingestion	Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
Skin contact	Irritating to skin. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.

p-MENTHA-1,5-DIENE

Inhalation	May cause respiratory system irritation.
Ingestion	Swallowing concentrated chemical may cause severe internal injury.
Skin contact	Irritating to skin. May cause sensitisation by skin contact.
Eye contact	Irritating to eyes.

OCTANOL

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} > 5000 mg/kg, Oral, Rat Calculation method.

Acute toxicity - dermal

ORGANIC RED MANDARIN OIL

Notes (dermal LD_{50})	LD_{50} > 2000 - <4000 mg/kg, Dermal, Rabbit Calculation method.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Not determined.

Skin corrosion/irritation

Skin corrosion/irritation	May be slightly irritating to skin. Redness. Rabbit OECD 404

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation. OECD 405

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	Not sensitising. Human

Germ cell mutagenicity

Genotoxicity - in vitro	Negative.

Carcinogenicity

Carcinogenicity	No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.

Specific target organ toxicity - single exposure

STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Based on available data the classification criteria are not met. Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.
Skin contact	May be slightly irritating to skin. Redness.
Eye contact	Causes serious eye irritation.

CITRONELLAL

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} 2420 mg/kg, Oral, Rat

ORGANIC RED MANDARIN OIL

Acute toxicity - inhalation

Notes (inhalation LC_{50})	LD_{50} > 2500 mg/kg, Dermal, Rabbit

Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation. Irritating to skin. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation. Irritating to eyes. Rabbit

Skin sensitisation

Skin sensitisation	May cause an allergic skin reaction. Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

ALPHA-TERPINENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	680.0
Species	Rat
ATE oral (mg/kg)	680.0

Aspiration hazard

Aspiration hazard	May be fatal if swallowed and enters airways.

METHYL N-METHYLANTHRANILATE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} 2250 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} 5000 mg/kg, Dermal, Rat

PARA CYMENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	3,669.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 3669 mg/kg, Oral, Rat
ATE oral (mg/kg)	3,669.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)	3.0

Aspiration hazard

Aspiration hazard	May be fatal if swallowed and enters airways.

ORGANIC RED MANDARIN OIL

Inhalation	Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
Ingestion	May be fatal if swallowed and enters airways.
Skin contact	Liquid may irritate skin. Repeated exposure may cause skin dryness or cracking.
Eye contact	Vapour or spray in the eyes may cause irritation and smarting.

p-MENTHA-1,4(8)-DIENE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} 3850 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rabbit

Skin sensitisation

Skin sensitisation	May cause an allergic skin reaction. Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

Aspiration hazard

Aspiration hazard	May be fatal if swallowed and enters airways.

1-METHYL 4-ISO PROPYL-1-CYCLOHEXEN-8-OL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	4,300.0
Species	Rat
Notes (oral LD_{50})	LD_{50} 4300 mg/kg, Oral, Rat
ATE oral (mg/kg)	4,300.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 3000 mg/kg, Dermal, Rabbit

Skin corrosion/irritation

Skin corrosion/irritation	Irritating to skin. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation	Irritating to eyes. Rabbit

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.

Specific target organ toxicity - repeated exposure

ORGANIC RED MANDARIN OIL

STOT - repeated exposure NOAEL 314 mg/kg, Oral, Rat (90 days ; 7 days/week)

PIN-2-(10) ENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 5,000.0

Species Rat

Notes (oral LD_{50}) LD_{50} 5000 mg/kg, Oral, Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 5,000.0

Species Rabbit

Notes (dermal LD_{50}) LD_{50} 5000 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 5,000.0

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Inhalation Irritating to respiratory system.

Ingestion Gastrointestinal symptoms, including upset stomach.

Skin contact Irritating to skin.

Eye contact Irritating to eyes.

MYRCENE

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} > 5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} > 5000 mg/kg, Dermal, Rabbit

SECTION 12: Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

2-PINENE

Ecotoxicity The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

ORGANIC RED MANDARIN OIL

DODECANAL

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

CAMPHENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

OCTANAL

Ecotoxicity Toxic to aquatic life with long lasting effects.

CARYOPHYLLENE

Ecotoxicity May cause long lasting harmful effects to aquatic life.

NONANAL

Ecotoxicity Harmful to aquatic life with long lasting effects.

LINALOOL

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

p-MENTHA-1,5-DIENE

Ecotoxicity The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

OCTANOL

Ecotoxicity Harmful to aquatic life with long lasting effects.

PARA CYMENE

Ecotoxicity Toxic to aquatic life with long lasting effects.

PIN-2-(10) ENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Very toxic to aquatic life.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Acute aquatic toxicity

$LE(C)_{50}$ 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC50, 96 hours: 0.8 mg/l, Pimephales promelas (Fat-head Minnow)

ORGANIC RED MANDARIN OIL

Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 69.6 mg/l, Daphnia magna
Chronic aquatic toxicity	
M factor (Chronic)	1

2-PINENE

Acute aquatic toxicity	
LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hour: 6.74 mg/l, Daphnia magna
Chronic aquatic toxicity	
NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1

3,7,7-TRIMETHYLBICYCLO[4.1.0]HEPT-3-ENE

Acute aquatic toxicity	
LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hour: 10 - 100 mg/l, Daphnia magna
Chronic aquatic toxicity	
M factor (Chronic)	1

DODECANAL

Toxicity	Not considered toxic to fish.
Acute aquatic toxicity	
Acute toxicity - fish	LC_{50}, 96 hours: 2.6 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: > 0.48 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	NOEC, 72 minutes: > 0.35 mg/l, Algae OECD 201

CAMPHENE

Acute aquatic toxicity	
LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 0.1-1 mg/l, Fish

ORGANIC RED MANDARIN OIL

Chronic aquatic toxicity

M factor (Chronic) 1

CITRONELLOL

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 14.6 mg/l,

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 17.5 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC_{50}, 72 hours: 2.4 mg/l, Algae

OCTANAL

Toxicity Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC_{50}, 48 hour: 1.54 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC_{50}, 72 hour: 2.9 mg/l, Algae
OECD 201

CARYOPHYLLENE

Toxicity May cause long lasting harmful effects to aquatic life.

CITRAL

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 96 hours: 4.6 mg/l, Fish

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 6.8 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC_{50}, 72 hours: 103.8 mg/l, Algae

DECANAL

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 96 hours: 1.45 mg/l, Freshwater fish
OECD 203

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 1.17 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC_{50}, 72 hours: 4.5 mg/l, Freshwater algae
OECD 201
Chronic, NOEC, 72 hour: 0.759 mg/l, Algae
OECD 201

3,7-DIMETHYLOCTA-1,3,6-TRIENE

Acute aquatic toxicity

ORGANIC RED MANDARIN OIL

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1

NONANAL

Toxicity	Harmful to aquatic life.

LINALOOL

Toxicity	Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 27.8 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 59 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC_{50}, 72 hours: 156.7 mg/l, Algae

OCTANOL

Toxicity	Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, : > 10 - 100 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC_{50}, : > 10 - 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, : > 10 - 100 mg/l, Desmodesmus subspicatus OECD 201
Acute toxicity - microorganisms	EC_{0}, : > 100 mg/l, Activated sludge OECD 209

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates	NOEC, : <= 1 mg/l, Daphnia magna

(Z)-3,7-DIMETHYLOCTA-1,3,6,-TRIENE

Acute aquatic toxicity

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1

CITRONELLAL

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hour: 22 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hour: 8.7 mg/l, Daphnia magna

ORGANIC RED MANDARIN OIL

Acute toxicity - aquatic plants	IC_{50}, 72 hour: 13.33 mg/l, Algae

ALPHA-TERPINENE

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 1.48 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 1.85 mg/l, Daphnia magna

METHYL N-METHYLANTHRANILATE

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hour: 12.5 mg/l, Fish
Acute toxicity - aquatic plants	IC_{50}, 72 hour: 111.7 mg/l, Algae OECD 201

PARA CYMENE

Toxicity	Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hour: 48 ppm, Fish
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hour: 6500 µg/l, Daphnia magna

p-MENTHA-1,4(8)-DIENE

Acute aquatic toxicity

$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 0.72 - 6.104 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hour: 5.184 mg/kg, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hour: 5.4 mg/l, Algae Chronic, NOEC, 72 hour: 3.47 mg/l, Algae

Chronic aquatic toxicity

M factor (Chronic)	1

1-METHYL 4-ISO PROPYL-1-CYCLOHEXEN-8-OL

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hour: 70 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hour: 73 mg/l, Daphnia magna OECD 202

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Acute toxicity - aquatic plants	EC_{50}, 72 hour: 68 mg/l, Algae OECD 201 Chronic, NOEC, 72 hour: 3.9 mg/l, Algae OECD 201

PIN-2-(10) ENE

Acute aquatic toxicity

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hour: 2.2 mg/l, Daphnia magna

Chronic aquatic toxicity

M factor (Chronic)	1

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Persistence and degradability	Not readily biodegradable.

2-PINENE

Persistence and degradability	The product is readily biodegradable.

3,7,7-TRIMETHYLBICYCLO[4.1.0]HEPT-3-ENE

Persistence and degradability	The product is readily biodegradable.

DODECANAL

Persistence and degradability	There are no data on the degradability of this product.
Biodegradation	- Degradation 73%: 28 days OECD 301F

CITRONELLOL

Persistence and degradability	The substance is readily biodegradable.
Biodegradation	- Degradation 80 - 90%: 28 days OECD 301F

OCTANAL

ORGANIC RED MANDARIN OIL

Persistence and degradability Inherently biodegradable.

Biodegradation
- Degradation 77%: 28 day
OECD 302C
- Degradation 46%: 28 day
OECD 310

CITRAL

Persistence and degradability The substance is readily biodegradable.

Biodegradation
- Degradation 85 - 95%: 28 days
OECD 301C

DECANAL

Biodegradation The substance is readily biodegradable.
- Degradation 82%: 28 days
OECD 301F

NONANAL

Persistence and degradability There are no data on the degradability of this product.

LINALOOL

Persistence and degradability The product is readily biodegradable.

Biodegradation The substance is readily biodegradable.
- Degradation (%) 64.2%: 28 days
OECD 301D

OCTANOL

Persistence and degradability The product is readily biodegradable.

CITRONELLAL

Persistence and degradability The product is readily biodegradable.

Biodegradation
- Degradation 82%: 28 day
OECD 301B

METHYL N-METHYLANTHRANILATE

Persistence and degradability The product is not readily biodegradable.

PARA CYMENE

ORGANIC RED MANDARIN OIL

Persistence and degradability	There are no data on the degradability of this product.

p-MENTHA-1,4(8)-DIENE

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation 72%: 28 day OECD 301D

1-METHYL 4-ISO PROPYL-1-CYCLOHEXEN-8-OL

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation 80%: 28 day

PIN-2-(10) ENE

Persistence and degradability	The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	No information available.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Bioaccumulative potential	Potentially bioaccumulating.
Partition coefficient	log Pow: 4.38

DODECANAL

Bioaccumulative potential	BCF: 711,
Partition coefficient	log Pow: 3.6

CAMPHENE

Bioaccumulative potential	Potentially bioaccumulating.
Partition coefficient	log Pow: 4.5

CITRONELLOL

Bioaccumulative potential	Bioaccumulation is unlikely.
Partition coefficient	log Pow: 3.41

OCTANAL

Bioaccumulative potential	Bioaccumulation is unlikely.
Partition coefficient	log Pow: 3.05

ORGANIC RED MANDARIN OIL

CARYOPHYLLENE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 6.23

CITRAL

Bioaccumulative potential Bioaccumulation is unlikely. BCF: 89.72,

Partition coefficient log Pow: 2.76

DECANAL

Bioaccumulative potential May accumulate in soil and water systems. BCF: 190,

Partition coefficient log Pow: 3.8

NONANAL

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient No information available.

LINALOOL

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Kow: 2.7

OCTANOL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Kow: 3.5

CITRONELLAL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.62

PARA CYMENE

Bioaccumulative potential No data available on bioaccumulation.

p-MENTHA-1,4(8)-DIENE

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.7

1-METHYL 4-ISO PROPYL-1-CYCLOHEXEN-8-OL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.67

12.4. Mobility in soil

ORGANIC RED MANDARIN OIL

Mobility Insoluble in water.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Mobility The product is insoluble in water.

2-PINENE

Mobility The product is insoluble in water.

DODECANAL

Mobility No information available.

CAMPHENE

Mobility The product is insoluble in water.

OCTANAL

Mobility No information available.

NONANAL

Mobility Insoluble in water.

LINALOOL

Mobility The product is insoluble in water.

p-MENTHA-1,5-DIENE

Mobility The product is insoluble in water.

OCTANOL

Mobility Immiscible with water.

PARA CYMENE

Mobility Not determined.

PIN-2-(10) ENE

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

ORGANIC RED MANDARIN OIL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

DODECANAL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

OCTANAL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

NONANAL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

LINALOOL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

OCTANOL

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

PARA CYMENE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

Ecological information on ingredients.

(R)-P-MENTHA-1,8-DIENE

Other adverse effects Not determined.

DODECANAL

Other adverse effects None known.

CITRONELLOL

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

OCTANAL

Other adverse effects None known.

ORGANIC RED MANDARIN OIL

CARYOPHYLLENE

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

CITRAL

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

DECANAL

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

NONANAL

Other adverse effects None known.

LINALOOL

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

OCTANOL

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

PARA CYMENE

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Do not puncture or incinerate, even when empty. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

ORGANIC RED MANDARIN OIL

UN No. (ADR/RID)	1197
UN No. (IMDG)	1197
UN No. (ICAO)	1197
UN No. (ADN)	1197

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	EXTRACTS, LIQUID
Proper shipping name (IMDG)	EXTRACTS, LIQUID
Proper shipping name (ICAO)	EXTRACTS, LIQUID
Proper shipping name (ADN)	EXTRACTS, LIQUID

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	3
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

ORGANIC RED MANDARIN OIL

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information required.

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. This product may impact SEVESO storage regulations.
Restrictions (Annex XVII Regulation 1907/2006)	This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3
Seveso Directive - Control of major accident hazards	P5c E1

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Other information

ORGANIC RED MANDARIN OIL

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very Persistent and Very Bioaccumulative.
IARC: International Agency for Research on Cancer.
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
cATpE: Converted Acute Toxicity Point Estimate.
BCF: Bioconcentration Factor.
BOD: Biochemical Oxygen Demand.
EC_{50}: 50% of maximal Effective Concentration.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
LOEC: Lowest Observed Effect Concentration.
DMEL: Derived Minimal Effect Level.
EL50: Exposure Limit 50
hPa: Hectopascal
LL50: Lethal Loading fifty
OECD: Organisation for Economic Co-operation and Development
POW: Octanol-water partition coefficient
SCBA: self-contained breathing apparatus
STP: Sewage Treatment Plant
VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

30/05/2023

Version number

3.000

Supersedes date

07/07/2021

SDS number

55507

ORGANIC RED MANDARIN OIL

SDS status Approved.

Hazard statements in full

H226 Flammable liquid and vapour.
H228 Flammable solid.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
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.
H413 May cause long lasting harmful effects to aquatic life.

Signature Jitendra Panchal