



SAFETY DATA SHEET ORGANIC CARDAMON OIL

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

1.1. Product identifier

Product name	ORGANIC CARDAMON OIL
Product number	55427
CAS number	8000-66-6
EC number	288-922-1

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

Identified uses	Cosmetics
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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
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	55427

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

EC number	288-922-1
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Hazard pictograms



Signal word	Warning
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ORGANIC CARDAMON OIL

Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation. H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P264 Wash contaminated skin thoroughly after handling. P273 Avoid release to the environment. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations.
Contains	EUCALYPTOL, LINALYL ACETATE, LINALOOL, (R)-P-MENTHA-1,8-DIENE, 2-PINENE, GERANIOL, (E)-3,7-DIMETHYLOCTA-2,6-DIENAL, PIN-2-(10) ENE, (Z)-3,7-DIMETHYLOCTA-2,6-DIENAL, GERANYL ACETATE, 5-ISOPROPYL-2-METHYLBICYCLO[3.1.0]HEX-2-ENE, p-MENTHA-1,4(8)-DIENE, (2E,6E)-3,7,11-TRIMETHYLDODECA-2,6,10-TRIEN-1-OL

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

P-MENTH-1-EN-8-YL ACETATE			30-60%
CAS number: 80-26-2	EC number: 201-265-7	REACH registration number: 01-2119977127-29-XXXX	
Classification Aquatic Chronic 2 - H411			

EUCALYPTOL			30-60%
CAS number: 470-82-6	EC number: 207-431-5	REACH registration number: 01-2119967772-24-XXXX	
Acute Toxicity Estimate (oral): LD ₅₀ 2480 mg/kg, Oral, Rat			
Classification Flam. Liq. 3 - H226 Skin Sens. 1B - H317			

LINALYL ACETATE			1-5%
CAS number: 115-95-7	EC number: 204-116-4	REACH registration number: 01-2119454789-19-XXXX	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317			

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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			

(R)-P-MENTHA-1,8-DIENE			1-5%
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			

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			

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			

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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			
GERANIOL			<1%
CAS number: 106-24-1	EC number: 203-377-1	REACH registration number: 01-2119552430-49-XXXX	
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317			
(E)-3,7-DIMETHYLOCTA-2,6-DIENAL			<1%
CAS number: 141-27-5	EC number: 205-476-5		
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1B - H317			
PIN-2-(10) ENE			<1%
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			
(Z)-3,7-DIMETHYLOCTA-2,6-DIENAL			<1%
CAS number: 106-26-3	EC number: 203-379-2		
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1B - H317			

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GERANYL ACETATE			<1%
CAS number: 105-87-3	EC number: 203-341-5	REACH registration number: 01-2119973480-35-XXXX	
Classification Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412			

P-MENTHA-1,4-DIENE			<1%
CAS number: 99-85-4	EC number: 202-794-6		
Classification Flam. Liq. 3 - H226 Repr. 2 - H361d Asp. Tox. 1 - H304			

5-ISOPROPYL-2-METHYLBICYCLO[3.1.0]HEX-2-ENE			<1%
CAS number: 2867-05-2	EC number: 220-686-7		
Classification Flam. Liq. 3 - H226 Skin Sens. 1 - H317			

PARA CYMENE			<1%
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			

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

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(2E,6E)-3,7,11-TRIMETHYLDODECA-2,6,10-TRIEN-1-OL			<1%
CAS number: 106-28-5	EC number: 679-283-3		
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1B - H317			

acetone			<0.1%
CAS number: 67-64-1	EC number: 200-662-2	REACH registration number: 01-2119471330-49-XXXX	
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336			

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

Product name	ORGANIC CARDAMON OIL
CAS number	8000-66-6
EC number	288-922-1
Composition comments	The data shown are in accordance with the latest EC Directives.

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

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. Symptoms following overexposure may include the following: Pain or irritation. Profuse watering of the eyes. Redness.

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
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SECTION 5: Firefighting measures

5.1. Extinguishing media

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Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire.
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.
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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.
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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.
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6.3. Methods and material for containment and cleaning up

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.
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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.
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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.
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7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ORGANIC CARDAMON OIL

acetone

Long-term exposure limit (8-hour TWA): WEL 500 ppm 1210 mg/m³

Short-term exposure limit (15-minute): WEL 1500 ppm 3620 mg/m³

WEL = Workplace Exposure Limit.

EUCALYPTOL (CAS: 470-82-6)

DNEL	Workers - Dermal; Long term systemic effects: 2 mg/kg
	Workers - Inhalation; Long term systemic effects: 7.05 mg/kg
	Consumer - Dermal; Long term systemic effects: 1 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 1.74 mg/m ³
PNEC	STP; 10 mg/l
	Soil; 0.2 mg/kg
	Fresh water; 0.057 mg/l
	marine water; 0.0057 mg/l
	Sediment (Freshwater); 0.06732 mg/kg
	Sediment (Marinewater); 0.00673 mg/kg

LINALYL ACETATE (CAS: 115-95-7)

DNEL	Industry - Dermal; Long term systemic effects: 2.5 mg/kg/day
	Industry - Inhalation; Long term systemic effects: 2.75 mg/m ³
	Consumer - Inhalation; Long term systemic effects: 0.68 mg/m ³
	Workers - Dermal; Short term local effects: 8 mg/cm ²
	Workers - Dermal; Long term local effects: 8 mg/cm ²
	Consumer - Dermal; Short term local effects: 8 mg/cm ²
	Consumer - Dermal; Long term local effects: 8 mg/cm ²
PNEC	- Fresh water; 0.011 mg/l
	- marine water; 0.0011 mg/l
	- Sediment (Freshwater); 0.609 mg/kg
	- Sediment (Marinewater); 0.0609 mg/kg
	- Soil; 0.115 mg/kg
	- 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/m ³
	Industry - Dermal; Long term systemic effects: 2.5 mg/kg/day
	Industry - Inhalation; Long term systemic effects: 2.8 mg/m ³
	Consumer - Dermal; Short term systemic effects: 2.5 mg/kg/day
	Consumer - Inhalation; Short term systemic effects: 4.1 mg/m ³
	Consumer - Oral; Short term systemic effects: 1.2 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 0.7 mg/m ³
	Consumer - Oral; Long term systemic effects: 0.2 mg/kg/day
	Consumer - Dermal; Short term local effects: 15 mg/cm ²
	Workers - Dermal; Long term local effects: 15 mg/cm ²
	Consumer - Dermal; Long term local effects: 15 mg/cm ²

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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

(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

GERANIOL (CAS: 106-24-1)

DNEL

Workers - Inhalation; Long term systemic effects: 161.6 mg/l
 Workers - Dermal; Long term systemic effects: 12.5 mg/kg
 Consumer - Oral; Long term systemic effects: 13.75 mg/kg
 Consumer - Inhalation; Long term systemic effects: 47.8 mg/m³
 Consumer - Dermal; Long term systemic effects: 7.5 mg/kg

GERANYL ACETATE (CAS: 105-87-3)

DNEL

Workers - Inhalation; Long term systemic effects: 62.59 mg/m³
 Workers - Dermal; Long term systemic effects: 35.5 mg/kg
 Consumer - Inhalation; Long term systemic effects: 15.4 mg/m³
 Consumer - Dermal; : 17.75 mg/kg
 Consumer - Oral; : 8.9 mg/kg

PNEC

- Fresh water; 3.72 mg/l
- marine water; 0.372 mg/l
- STP; 8 mg/l
- Sediment (Freshwater); 0.442 mg/kg
- Sediment (Marinewater); 0.0442 mg/kg
- Soil; 0.0859 mg/kg

OCTANAL (CAS: 124-13-0)

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

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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

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

acetone (CAS: 67-64-1)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Industry - Dermal; Long term systemic effects: 186 mg/kg/day Industry - Inhalation; Short term local effects: 2420 mg/m³ Industry - Inhalation; Long term systemic effects: 1210 mg/m³ Consumer - Oral; Long term systemic effects: 62 mg/kg/day Consumer - Dermal; Long term systemic effects: 62 mg/kg/day Consumer - Inhalation; Long term systemic effects: 200 mg/m³
PNEC	- Fresh water; 10.6 mg/l - marine water; 1.06 mg/l Sediment (Freshwater); 30.4 mg/kg Sediment (Marinewater); 3.04 mg/kg - Soil; 29.5 mg/l - STP; 100 mg/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/manufacture, 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. 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. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. 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	Colourless. to Light. Green.
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	62°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	0.919 – 0.936 @ 20°C
Bulk density	No information available.
Solubility(ies)	No information available.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.

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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.
<u>9.2. Other information</u>	
Refractive index	1.460 – 1.468
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.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid exposure to high temperatures or direct sunlight.
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10.5. Incompatible materials

Materials to avoid	No specific recommendations.
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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.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	26,595.74
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Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.
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Respiratory sensitisation

Respiratory sensitisation	No information available.
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Skin sensitisation

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Skin sensitisation	May cause an allergic skin reaction.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	No information available.
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No information available.
Reproductive toxicity - development	No information available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No information available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No information available.
<u>Aspiration hazard</u>	
Aspiration hazard	No information available.
<u>Inhalation</u>	
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
<u>Ingestion</u>	
Ingestion	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.
<u>Skin contact</u>	
Skin contact	Causes skin irritation. May cause an allergic skin reaction. Symptoms following overexposure may include the following: Irritation. Redness.
<u>Eye contact</u>	
Eye contact	Causes serious eye irritation. Symptoms following overexposure may include the following: Pain or irritation. Profuse watering of the eyes. Redness.

Toxicological information on ingredients.

P-MENTH-1-EN-8-YL ACETATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg)	5,075.0
Species	Rat
Notes (oral LD₅₀)	LD ₅₀ 5075 mg/kg, Oral, Rat
ATE oral (mg/kg)	5,075.0

Germ cell mutagenicity

Genotoxicity - in vitro	This substance has no evidence of mutagenic properties. Bacterial reverse mutation test: Negative.
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EUCALYPTOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg)	2,480.0
Species	Rat
Notes (oral LD₅₀)	LD ₅₀ 2480 mg/kg, Oral, Rat

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ATE oral (mg/kg) 2,480.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >5000 mg/kg, Dermal, Rabbit

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 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 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 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 May cause an allergic skin reaction.

Eye contact May cause temporary eye irritation.

LINALYL ACETATE

Acute toxicity - oral

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Notes (oral LD₅₀) LD₅₀ 9000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >5000 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

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.

Specific target organ toxicity - repeated exposure

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

LINALOOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,790.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 2790 mg/kg, Oral, Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,610.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 5610 mg/kg, Dermal, Rabbit

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin. Rabbit

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

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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.

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

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 4400 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 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

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

Reproductive toxicity

Reproductive toxicity - fertility No information available.

ORGANIC CARDAMON OIL

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.

MYRCENE

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 5000 mg/kg, Dermal, Rabbit

2-PINENE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 500.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 3700 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

Species Rat

Notes (dermal LD₅₀) LD₅₀ 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.

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

ORGANIC CARDAMON OIL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 4,300.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 4300 mg/kg, Oral, Rat

ATE oral (mg/kg) 4,300.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 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

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

P-MENTH-1-EN-4-OL

Acute toxicity - oral

ATE oral (mg/kg) 500.0

GERANIOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 3,600.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 3600 mg/kg, Oral, Rat

ATE oral (mg/kg) 3,600.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,001.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ > 5000 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 5,001.0

Skin corrosion/irritation

ORGANIC CARDAMON OIL

Skin corrosion/irritation Causes skin irritation.
Severe skin irritation. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.
Severe irritation. Cornea score: 3.1 - Rabbit

Skin sensitisation

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

PIN-2-(10) ENE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 5000 mg/kg, Oral, Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 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.

GERANYL ACETATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 6,330.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 6330 mg/kg, Oral, Rat

ATE oral (mg/kg) 6,330.0

Acute toxicity - dermal

ORGANIC CARDAMON OIL

Acute toxicity dermal (LD₅₀ 5,460.0 mg/kg)

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 5460 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 5,460.0

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin. Rabbit

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

ALPHA-TERPINENE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 680.0 mg/kg)

Species Rat

ATE oral (mg/kg) 680.0

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

PARA CYMENE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 3,669.0 mg/kg)

Species Rat

Notes (oral LD₅₀) LD₅₀ 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.

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

ORGANIC CARDAMON OIL

Notes (oral LD₅₀)	LD ₅₀ 3850 mg/kg, Oral, Rat
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ > 2000 mg/kg, Dermal, Rabbit
<u>Skin sensitisation</u>	
Skin sensitisation	May cause an allergic skin reaction. Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
<u>Aspiration hazard</u>	
Aspiration hazard	May be fatal if swallowed and enters airways.

OCTANAL

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	4,617.0
Species	Rat
Notes (oral LD₅₀)	LD ₅₀ 4617 mg/kg, Oral, Rat
ATE oral (mg/kg)	4,617.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,207.0
Species	Rabbit
Notes (dermal LD₅₀)	LD ₅₀ 5207 mg/kg, Dermal, Rabbit
ATE dermal (mg/kg)	5,207.0
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Causes skin irritation.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	No information available.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative., OECD 471 Gene mutation: Negative., OECD 476
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	

ORGANIC CARDAMON OIL

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.
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Specific target organ toxicity - repeated exposure

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

Aspiration hazard	No information available.
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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.

(1E,6E)-1-METHYL-5-METHYLIDENE-8-PROPAN-2-YLCYCLODECA-1,6-DIENE

Acute toxicity - oral

ATE oral (mg/kg)	500.0
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NERYL ACETATE

Acute toxicity - oral

Notes (oral LD₅₀)	LD ₅₀ > 5000 mg/kg, Oral, Rat
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Acute toxicity - dermal

Notes (dermal LD₅₀)	LD ₅₀ > 5000 mg/kg, Dermal, Rabbit
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Skin sensitisation

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

CAMPHENE

Acute toxicity - oral

Notes (oral LD₅₀)	LD ₅₀ >5000 mg/kg, Oral, Rat
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Acute toxicity - dermal

Notes (dermal LD₅₀)	LD ₅₀ >2500 mg/kg, Dermal, Rabbit
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Inhalation	May cause respiratory system irritation.
Ingestion	May cause stomach pain or vomiting.
Skin contact	Slightly irritating.

ORGANIC CARDAMON OIL

Eye contact Irritating to eyes.

DECANAL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 33,320.0

Species Rat

ATE oral (mg/kg) 33,320.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,040.0

Species Rabbit

ATE dermal (mg/kg) 5,040.0

Skin corrosion/irritation

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.

CARYOPHYLLENE

Skin sensitisation

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative.

ORGANIC CARDAMON OIL

Aspiration hazard

Aspiration hazard

May be fatal if swallowed and enters airways.

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.

UNDECAN-2-ONE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 5000 mg/kg, Oral, Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 5000 mg/kg, Dermal, Rabbit

Skin sensitisation

Skin sensitisation - Human: Not sensitising.

HEXANAL

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

2-(TETRAHYDRO-5-METHYL-5-VINYL-2-FURYL)PROPAN-2-OL

Acute toxicity - oral

ATE oral (mg/kg) 500.0

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

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 4,800.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 4800 mg/kg, Oral, Rat

ATE oral (mg/kg) 4,800.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 1.5 mg/kg, Inhalation, Dust/Mist, Rat

acetone

Acute toxicity - oral

Notes (oral LD₅₀) OECD 401

ORGANIC CARDAMON OIL

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 76.0

ATE inhalation (vapours mg/l) 76.0

Skin corrosion/irritation

Skin corrosion/irritation May cause skin 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 Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

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 Drowsiness, dizziness, disorientation, vertigo. Vapours have a narcotic effect. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.

Ingestion May cause nausea, headache, dizziness and intoxication. Gastrointestinal symptoms, including upset stomach. Central nervous system depression.

Skin contact Irritating to skin. Repeated exposure may cause skin dryness or cracking.

Eye contact Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

SECTION 12: Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

ORGANIC CARDAMON OIL

Ecological information on ingredients.

EUCALYPTOL

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.

LINALOOL

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

(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.

PIN-2-(10) ENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

PARA CYMENE

Ecotoxicity Toxic to aquatic life with long lasting effects.

OCTANAL

Ecotoxicity Toxic to aquatic life with long lasting effects.

CAMPHENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

CARYOPHYLLENE

Ecotoxicity May cause long lasting harmful effects to aquatic life.

12.1. Toxicity

Toxicity Toxic to aquatic life.

Ecological information on ingredients.

P-MENTH-1-EN-8-YL ACETATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: >11 mg/l, Fish
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hour: >10 mg/l, Daphnia magna
OECD 202

ORGANIC CARDAMON OIL

Acute toxicity - aquatic plants

EC₅₀, 72 hour: 6.9 mg/l, Algae
OECD 201
NOEC, 72 hour: 4.1 mg/l, Algae
OECD 201

EUCALYPTOL

Toxicity

Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 102 mg/l, Fish

LINALYL ACETATE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 7.9 mg/l, Freshwater fish
OECD 203

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 15 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants

IC₅₀, 72 hours: 62 mg/l, Freshwater algae
OECD 201

LINALOOL

Toxicity

Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 27.8 mg/l, Fish
OECD 203

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 59 mg/l, Daphnia magna

Acute toxicity - aquatic plants

IC₅₀, 72 hours: 156.7 mg/l, Algae

(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)

Acute toxicity - aquatic invertebrates

EC₅₀, 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

ORGANIC CARDAMON OIL

M factor (Acute)	1
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hour: 6.74 mg/l, Daphnia magna
<u>Chronic aquatic toxicity</u>	
NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
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
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

GERANIOL

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hour: 14 - 22 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 10.8 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	IC ₅₀ , 72 hour: 13.1 mg/l, Algae OECD 201

PIN-2-(10) ENE

Acute aquatic toxicity

LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hour: 2.2 mg/l, Daphnia magna
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

GERANYL ACETATE

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 68.12 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 14.1 mg/l, Daphnia magna OECD 202

ORGANIC CARDAMON OIL

Acute toxicity - aquatic plants

IC₅₀, 72 hours: 3.72 mg/l,
OECD 201
NOEC, 72 hour: 0.585 mg/l, Algae
OECD 201

ALPHA-TERPINENE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 1.48 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 1.85 mg/l, Daphnia magna

PARA CYMENE

Toxicity

Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hour: 48 ppm, Fish

Acute toxicity - aquatic invertebrates

LC₅₀, 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

LC₅₀, 96 hours: 0.72 - 6.104 mg/l, Fish

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hour: 5.184 mg/kg, Daphnia magna

Acute toxicity - aquatic plants

EC₅₀, 72 hour: 5.4 mg/l, Algae
Chronic, NOEC, 72 hour: 3.47 mg/l, Algae

Chronic aquatic toxicity

M factor (Chronic)

1

OCTANAL

Toxicity

Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hour: 1.54 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants

EC₅₀, 72 hour: 2.9 mg/l, Algae
OECD 201

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

Acute aquatic toxicity

LE(C)₅₀

0.1 < L(E)C₅₀ ≤ 1

M factor (Acute)

1

ORGANIC CARDAMON OIL

CAMPHENEAcute aquatic toxicity

LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.1-1 mg/l, Fish

Chronic aquatic toxicity

M factor (Chronic)	1
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TRIDECAN-2-ONEAcute aquatic toxicity

LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1

Chronic aquatic toxicity

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1

DECANALAcute 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

3,7,11,15-TETRAMETHYLHEXADEC-2-EN-1-OLAcute aquatic toxicity

LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1

Chronic aquatic toxicity

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1

CARYOPHYLLENE

Toxicity	May cause long lasting harmful effects to aquatic life.
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UNDECAN-2-ONE

ORGANIC CARDAMON OIL

Acute aquatic toxicity

LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hour: 1.5 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 0.54 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)C ₅₀ ≤ 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
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acetone

Toxicity	Not considered toxic to fish.
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Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 5540 mg/l, Oncorhynchus mykiss (Rainbow trout) LC ₅₀ , 96 hours: > 100 mg/l, Pimephales promelas (Fat-head Minnow)
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Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 8800 mg/l, Daphnia magna
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Acute toxicity - microorganisms	, : 1000 mg/l, Activated sludge
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Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates	NOEC, 28 days: 2.212 mg/l, Daphnia magna
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12.2. Persistence and degradability

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

Ecological information on ingredients.

P-MENTH-1-EN-8-YL ACETATE

Persistence and degradability	The product is readily biodegradable.
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ORGANIC CARDAMON OIL

Biodegradation

- Degradation 63%: 28 day
OECD 301F

EUCALYPTOL

Persistence and degradability

The substance is readily biodegradable.

LINALYL ACETATE

Biodegradation

The substance is readily biodegradable.
- Degradation 70 - 80%: 28 days
OECD 301F

LINALOOL

Persistence and degradability

The product is readily biodegradable.

Biodegradation

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

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

Persistence and degradability

Not readily biodegradable.

2-PINENE

Persistence and degradability

The product is readily biodegradable.

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

Persistence and degradability

The product is readily biodegradable.

Biodegradation

- Degradation 80%: 28 day

GERANIOL

Persistence and degradability

The product is readily biodegradable.

Biodegradation

- Degradation 90 - 100%: 28 day
OECD 301A
- Degradation 82%: 28 day
OECD 301D

PIN-2-(10) ENE

Persistence and degradability

The product is readily biodegradable.

GERANYL ACETATE

ORGANIC CARDAMON OIL

Persistence and degradability

The substance is readily biodegradable.

Biodegradation

- Degradation > 70%: 28 days
OECD 301F

PARA CYMENE

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

OCTANAL

Persistence and degradability

Inherently biodegradable.

Biodegradation

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

NERYL ACETATE

Persistence and degradability

The product is readily biodegradable.

DECANAL

Biodegradation

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

UNDECAN-2-ONE

Persistence and degradability

The product is readily biodegradable.

Biodegradation

- Degradation 85%: 28 day
OECD 301B

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

Persistence and degradability

The product is readily biodegradable.

acetone

Persistence and degradability

The product is readily biodegradable.

ORGANIC CARDAMON OIL

Biodegradation Water - Degradation (%) 91: 28 days
The substance is readily biodegradable.

Chemical oxygen demand 2.21 g O₂/g substance

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

P-MENTH-1-EN-8-YL ACETATE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 4.4

EUCALYPTOL

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Pow: 2.97

LINALYL ACETATE

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.9

LINALOOL

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Kow: 2.7

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

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 4.38

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

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.67

GERANIOL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.6

GERANYL ACETATE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 4.5

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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

OCTANAL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.05

NERYL ACETATE

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.67

CAMPHENE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 4.5

DECANAL

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

Partition coefficient log Pow: 3.8

CARYOPHYLLENE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 6.23

UNDECAN-2-ONE

Partition coefficient log Pow: 3.69

acetone

Bioaccumulative potential The product is not bioaccumulating. BCF: 3,

Partition coefficient : -0.24

12.4. Mobility in soil

Mobility No information available.

Ecological information on ingredients.

EUCALYPTOL

Mobility The product is insoluble in water.

ORGANIC CARDAMON OIL

LINALOOL

Mobility The product is insoluble in water.

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

Mobility The product is insoluble in water.

2-PINENE

Mobility The product is insoluble in water.

PIN-2-(10) ENE

Mobility The product is insoluble in water.

PARA CYMENE

Mobility Not determined.

OCTANAL

Mobility No information available.

CAMPHENE

Mobility The product is insoluble in water.

acetone

Mobility The product is soluble in water.

Adsorption/desorption coefficient Water - : 1.5 @ 20°C

Henry's law constant 3311 Pa m³/mol @ 25°C

12.5. Results of PBT and vPvB assessment

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

Ecological information on ingredients.

EUCALYPTOL

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.

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

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

ORGANIC CARDAMON OIL

PARA CYMENE

Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

OCTANAL

Results of PBT and vPvB assessment

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

acetone

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.

EUCALYPTOL

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.

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.

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

Other adverse effects

Not determined.

PARA CYMENE

Other adverse effects

No information available.

OCTANAL

Other adverse effects

None known.

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.

CARYOPHYLLENE

ORGANIC CARDAMON OIL

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.

acetone

Other adverse effects

No information required.

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

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TERPINEOL ACETATE, (R)-P-MENTHA-1,8-DIENE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TERPINEOL ACETATE, (R)-P-MENTHA-1,8-DIENE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TERPINEOL ACETATE, (R)-P-MENTHA-1,8-DIENE)

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TERPINEOL ACETATE, (R)-P-MENTHA-1,8-DIENE)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M6

ADR/RID label 9

IMDG class 9

ICAO class/division 9

ADN class 9

Transport labels


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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-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(-)

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 Not applicable.

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.
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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

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Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

Not listed.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

SECTION 16: Other information

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.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: 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.
 EC₅₀: 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

ORGANIC CARDAMON OIL

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	22/08/2018
Version number	1.000
SDS number	55427
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. 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.
Signature	Jitendra Panchal