



SAFETY DATA SHEET ORGANIC ROSE OIL

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

1.1. Product identifier

Product name	ORGANIC ROSE OIL
Product number	55508
Synonyms; trade names	ROSE OIL COSMOS ORGANIC
REACH registration notes	If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration (1mT/year)
CAS number	90106-38-0
EC number	290-260-3

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

Identified uses	Cosmetics Fragrance
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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.	55508

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 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

EC number	290-260-3
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Hazard pictograms



ORGANIC ROSE OIL

Signal word	Danger
Hazard statements	H226 Flammable liquid and vapour. H315 Causes skin irritation. H318 Causes serious eye damage. H317 May cause an allergic skin reaction. H304 May be fatal if swallowed and enters airways. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 Avoid release to the environment. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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	CITRONELLOL, GERANIOL, LINALOOL, NEROL, PARAFFINS (PETROLEUM), NORMAL C5-20, CITRAL, (R)-P-MENTHA-1,8-DIENE, 2-PINENE, PIN-2-(10) ENE, EUGENOL, GERANYL ACETATE, 1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE, ISOEUGENOL

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

CITRONELLOL 30-60%		
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		
GERANIOL 10-30%		
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		

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ETHANOL 5-10%		
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX
Acute Toxicity Estimate (oral): LD ₅₀ 10470 mg/kg, Oral, Rat Acute Toxicity Estimate (dermal): LD ₅₀ 15800 mg/kg, Dermal, Rat Acute Toxicity Estimate (inhalation): LC ₅₀ 20 mg/l, Inhalation, Rat Eye Irrit. 2 - H319 ≥ 50 %		
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319		
LINALOOL 5-10%		
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		
PHENYL ETHYL ALCOHOL 5-10%		
CAS number: 60-12-8	EC number: 200-456-2	
Acute Toxicity Estimate (oral): LD ₅₀ 1610 mg/kg, Oral, Rat Acute Toxicity Estimate (dermal): LD ₅₀ 2500 mg/kg, Dermal, Rabbit		
Classification Acute Tox. 4 - H302 Eye Irrit. 2 - H319		
PARAFFINS (PETROLEUM), NORMAL C5-20 5-10%		
CAS number: 64771-72-8	EC number: 265-233-4	
Classification Flam. Liq. 3 - H226 Asp. Tox. 1 - H304		

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NEROL			5-10%
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-DIMETHYLOCT-6-ENYL ACETATE			1-5%
CAS number: 67601-05-2	EC number: 266-767-0		
Classification Skin Irrit. 2 - H315 Aquatic Chronic 2 - H411			
(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			
TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN			1-5%
CAS number: 16409-43-1	EC number: 240-457-5		
Acute Toxicity Estimate (oral): LD ₅₀ > 2000 mg/kg, Oral, Rat Acute Toxicity Estimate (dermal): LD ₅₀ > 5000 mg/kg, Dermal, Rabbit			
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Repr. 2 - H361f Aquatic Chronic 3 - H412			

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3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS			1-5%
CAS number: 7212-44-4	EC number: 230-597-5	REACH registration number: 01-2119457636-29-XXXX	
M factor (Acute) = 1	M factor (Chronic) = 1		
Classification Eye Irrit. 2 - H319 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410			

ISOEUGENOL			1-5%
CAS number: 97-54-1	EC number: 202-590-7		
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1A - H317			

GERANYL ACETATE			1-5%
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			

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			

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1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE			1-5%
CAS number: 23696-85-7		EC number: 245-833-2	
Classification Skin Sens. 1B - H317 Aquatic Chronic 2 - H411			

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			

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			

ISO - VALERALDEHYDE			1-5%
CAS number: 590-86-3		EC number: 209-691-5	REACH registration number: 01-2119486566-23
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319			

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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		

EUGENOL 1-5%		
CAS number: 97-53-0	EC number: 202-589-1	
Acute Toxicity Estimate (oral): LD ₅₀ 2300 mg/kg, Oral, Rat Acute Toxicity Estimate (inhalation): LD ₅₀ 2580 mg/l, , Dust/Mist Rat		
Classification Eye Irrit. 2 - H319 Skin Sens. 1 - H317		

4-ALLYLVERATROLE <1%		
CAS number: 93-15-2	EC number: 202-223-0	
Classification Acute Tox. 4 - H302 Muta. 2 - H341 Carc. 2 - H351		

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

Product name	ORGANIC ROSE OIL
REACH registration notes	If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration (1mT/year)
CAS number	90106-38-0
EC number	290-260-3
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.

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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	Causes serious eye damage.

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

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

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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

ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³

WEL = Workplace Exposure Limit.

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/m ³ Workers - Dermal; Long term local effects: 29.5 mg/cm ² Consumer - Dermal; Long term systemic effects: 27.5 mg/kg/day Consumer - Inhalation; Long term systemic effects: 47.8 mg/m ³ Consumer - Oral; Long term systemic effects: 13.8 mg/kg/day Consumer - Dermal; Long term local effects: 29.5 mg/cm ²
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

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/m ³ Consumer - Dermal; Long term systemic effects: 7.5 mg/kg
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ETHANOL (CAS: 64-17-5)

Ingredient comments	WEL = Workplace Exposure Limits
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DNEL	Workers - Inhalation; Long term systemic effects: 950 mg/m ³
	Workers - Inhalation; Short term local effects: 1900 mg/m ³
	Workers - Dermal; Long term systemic effects: 343 mg/kg/day
	General population - Inhalation; Long term systemic effects: 114 mg/m ³
	General population - Inhalation; Short term local effects: 950 mg/m ³
	General population - Dermal; Long term systemic effects: 206 mg/kg/day
	General population - Oral; Long term systemic effects: 87 mg/kg/day

PNEC	- Fresh water; 0.96 mg/l
	- marine water; 0.79 mg/l
	- Intermittent release; 2.75 mg/l
	- STP; 580 mg/l
	- Sediment (Freshwater); 3.6 mg/kg
	- Sediment (Marinewater); 2.9 mg/kg
	- Soil; 0.63 mg/kg

LINALOOL (CAS: 78-70-6)

Ingredient comments	No exposure limits known for ingredient(s).
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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

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/m ³
	Workers - Dermal; Long term systemic effects: 9.5 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 16.6 mg/m ³
	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

3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS (CAS: 7212-44-4)

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DNEL Workers - Dermal; Long term systemic effects: 2.8 mg/kg/day
 Workers - Inhalation; Long term systemic effects: 10 mg/m³
 Consumer - Dermal; Long term systemic effects: 17 mg/kg/day
 Consumer - Oral; Long term systemic effects: 0.8 mg/kg/day

PNEC Fresh water; 0.00051 mg/l
 marine water; 0.000051 mg/l
 Sediment (Freshwater); 0.0698 mg/kg
 Sediment (Marinewater); 0.00698 mg/kg
 STP; 10 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

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

EUGENOL (CAS: 97-53-0)

DNEL Workers - Inhalation; Long term systemic effects: 21.2 mg/m³
 Workers - Dermal; Long term systemic effects: 6 mg/kg/day
 Consumer - Inhalation; Long term systemic effects: 5.22 mg/m³
 Consumer - Dermal; Long term systemic effects: 3 mg/kg/day
 Consumer - Oral; Long term systemic effects: 3 mg/kg/day

PNEC Fresh water; 1.13 µg/l
 marine water; 0.113 µg/l
 Sediment (Freshwater); 0.081 mg/kg
 Sediment (Marinewater); 0.008 mg/kg
 Soil; 0.015 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

TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN (CAS: 16409-43-1)

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DNEL	Workers - Dermal; Long term systemic effects: 0.3 mg/kg Workers - Inhalation; Long term systemic effects: 1.2 mg/m³ Consumer - Inhalation; Long term systemic effects: 0.3 mg/m³ Consumer - Dermal; Long term systemic effects: 0.2 mg/kg Consumer - Oral; Long term systemic effects: 0.2 mg/kg
PNEC	- Fresh water; 0.0332 mg/l - marine water; 0.00332 mg/l - STP; 10 mg/l - Sediment (Freshwater); 2.29 mg/kg - Sediment (Marinewater); 0.229 mg/kg - Soil; 0.437 mg/kg

4-ALLYLVERATROLE (CAS: 93-15-2)

Ingredient comments	No exposure limits known for ingredient(s).
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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.

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. 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. or Green. Light (or pale).
Odour	Characteristic.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.

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Initial boiling point and range	No information available.
Flash point	52°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	0.86 – 0.88 @ 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.
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	No information available.
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.

10.5. Incompatible materials

Materials to avoid No specific recommendations.

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) 16,466.79

Acute toxicity - dermal

ATE dermal (mg/kg) 172,727.27

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro Suspected of causing genetic defects.

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. 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.

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Eye contact Causes serious eye damage.

Toxicological information on ingredients.

CITRONELLOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 3,450.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 3450 mg/kg, Oral, Rat

ATE oral (mg/kg) 3,450.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,650.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 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.

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

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

ATE dermal (mg/kg) 5,001.0

Skin corrosion/irritation

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.

ETHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,470.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 15,800.0

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 20.0

Species Rat

ATE inhalation (vapours mg/l) 20.0

Skin corrosion/irritation

Animal data Not irritating. Rabbit OECD 404

Serious eye damage/irritation

Serious eye damage/irritation Irritating. Rabbit OECD 405

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising. Mouse OECD 429

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.

ORGANIC ROSE OIL

Reproductive toxicity

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

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

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

Vapours in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.

Ingestion

Ingestion of large amounts may cause unconsciousness. May cause nausea, headache, dizziness and intoxication.

Skin contact

Prolonged contact may cause dryness of the skin.

Eye contact

Causes serious eye irritation.

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

ORGANIC ROSE OIL

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.

PHENYL ETHYL ALCOHOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,610.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 1610 mg/kg, Oral, Rat

ATE oral (mg/kg) 1,610.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,500.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 2500 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 2,500.0

ORGANIC ROSE 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.
Inhalation	Vapours irritate the respiratory system. May cause coughing and difficulties in breathing.
Ingestion	Harmful if swallowed.
Skin contact	Harmful in contact with skin.
Eye contact	Irritating to eyes.

NEROL

Acute toxicity - oral

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

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

Acute toxicity - oral

Notes (oral LD ₅₀)	LD ₅₀ 4400 mg/kg, Oral, Rat
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Acute toxicity - dermal

Notes (dermal LD ₅₀)	LD ₅₀ 5000 mg/kg, Dermal, Rabbit
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Skin corrosion/irritation

Animal data	No information available.
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Serious eye damage/irritation

Serious eye damage/irritation	No information available.
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Respiratory sensitisation

Respiratory sensitisation	No information available.
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Skin sensitisation

Skin sensitisation	No information available.
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Germ cell mutagenicity

Genotoxicity - in vitro	No information available.
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ORGANIC ROSE OIL

Carcinogenicity

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.

TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,001.0

Species Rat

Notes (oral LD₅₀) LD₅₀ > 2000 mg/kg, Oral, Rat

ATE oral (mg/kg) 2,001.0

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

Animal data Irritating.

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.

3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS

ORGANIC ROSE OIL

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 2610 mg/kg, Oral, Rat

Acute toxicity - dermal

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

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 100 mg/kg, Oral, Rat

ISOEUGENOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,560.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 1560 mg/kg, Oral, Rat

ATE oral (mg/kg) 1,560.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,900.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 1900 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 1,900.0

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

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

Species Rabbit

ORGANIC ROSE OIL

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.

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.

1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 2000 mg/kg, Oral, Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,900.0

Species Rabbit

Notes (dermal LD₅₀) LD₅₀ 2900 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 2,900.0

ORGANIC ROSE OIL

Skin sensitisation

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

Germ cell mutagenicity

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

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

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)

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

ORGANIC ROSE OIL

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.

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
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Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
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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.
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EUGENOL

Acute toxicity - oral

Acute toxicity oral (LD ₅₀ mg/kg)	2,300.0
Species	Rat
Notes (oral LD ₅₀)	LD ₅₀ 2300 mg/kg, Oral, Rat
ATE oral (mg/kg)	2,300.0

Acute toxicity - inhalation

ORGANIC ROSE OIL

Acute toxicity inhalation
(LC₅₀ dust/mist mg/l)

2,580.0

Species

Rat

Notes (inhalation LC₅₀)

LC₅₀ 2580 mg/l, Dust/Mist, Inhalation, Rat

ATE inhalation
(dusts/mists mg/l)

2,580.0

Serious eye damage/irritation

**Serious eye
damage/irritation**

Causes serious eye irritation.

Skin sensitisation

Skin sensitisation

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

4-ALLYLVERATROLE

Acute toxicity - oral

ATE oral (mg/kg)

500.0

Inhalation

Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.

Ingestion

May cause discomfort if swallowed.

Skin contact

Liquid may irritate skin.

Eye contact

May cause temporary eye irritation.

SECTION 12: Ecological information

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

ETHANOL

Ecotoxicity

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

PHENYL ETHYL ALCOHOL

ORGANIC ROSE OIL

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.

PIN-2-(10) ENE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

Ecotoxicity 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.

4-ALLYLVERATROLE

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.

12.1. Toxicity

Toxicity Toxic to aquatic life.

Ecological information on ingredients.

CITRONELLOL

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 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

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

ETHANOL

Toxicity Not considered toxic to fish.

ORGANIC ROSE OIL

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 48 hours: > 100 mg/l, Leuciscus idus (Golden orfe)
	LC ₅₀ , 96 hour: 14200 mg/l, Pimephales promelas (Fat-head Minnow)
	LC ₅₀ , 96 hour: 13000 mg/l, Oncorhynchus mykiss (Rainbow trout)
	LC ₅₀ , 96 hour: 12000 - 16000 mg/l, Oryzias latipes (Red killifish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 12340 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 48 hours: > 100 mg/l, Selenastrum capricornutum
	EC ₅₀ , 72 hour: 275 mg/l, (Chlorella vulgaris)

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates	NOEC, 9 day: 9.6 mg/l, Daphnia magna
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LINALOOL

Toxicity	Not considered toxic to fish.
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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

PHENYL ETHYL ALCOHOL

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 230 mg/l,
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 287 mg/l, Daphnia magna

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

Acute aquatic toxicity

LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.8 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 69.6 mg/l, Daphnia magna

Chronic aquatic toxicity

M factor (Chronic)	1
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TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN

Acute aquatic toxicity

ORGANIC ROSE OIL

Acute toxicity - fish	LC ₅₀ , 96 hour: 77.6 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 33.2 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	EC ₅₀ , 72 hour: 79.7 mg/l, Algae OECD 201 EC10, 72 hour: 39.1 mg/l, Algae OECD 201

3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS

Toxicity Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

LE(C)₅₀	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hour: 1.43 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 0.51 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , 72 hour: 2 mg/l, Algae OECD 201

Chronic aquatic toxicity

M factor (Chronic) 1

GERANYL ACETATE

Acute aquatic toxicity

Acute toxicity - fish	LC50, 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
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: 3.72 mg/l, OECD 201 NOEC, 72 hour: 0.585 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

1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

ORGANIC ROSE OIL

Toxicity Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: 1.09 mg/l, Fish
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hour: 9 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hour: 8.3 mg/l, Algae

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

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: 70 mg/l, Fish
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hour: 73 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hour: 68 mg/l, Algae
OECD 201
Chronic, NOEC, 72 hour: 3.9 mg/l, Algae
OECD 201

2-PINENE

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - aquatic invertebrates LC₅₀, 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

CITRAL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 4.6 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 6.8 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 103.8 mg/l, Algae

EUGENOL

Acute aquatic toxicity

ORGANIC ROSE OIL

Acute toxicity - fish	LC ₅₀ , 96 hour: 13 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 1.3 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: 24 mg/l, Algae NOEC, 72 hours: 23 mg/l, Algae

4-ALLYLVERATROLE

Toxicity	Not considered toxic to fish.
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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.

CITRONELLOL

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

GERANIOL

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation 90 - 100%: 28 day OECD 301A - Degradation 82%: 28 day OECD 301D

ETHANOL

Persistence and degradability	The product is readily biodegradable. The product is degraded completely by photochemical oxidation.
Biodegradation	- Degradation 84%: 20 day - Half-life : 1 - <10 days

LINALOOL

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

PHENYL ETHYL ALCOHOL

Persistence and degradability	The substance is readily biodegradable.
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ORGANIC ROSE OIL

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

Persistence and degradability Not readily biodegradable.

TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN

Persistence and degradability The product is readily biodegradable.

Biodegradation - Degradation 79%: 28 days
OECD 301F

3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS

Persistence and degradability The product is readily biodegradable.

Biodegradation - 70-80%: 28 days

GERANYL ACETATE

Persistence and degradability The substance is readily biodegradable.

Biodegradation - Degradation > 70%: 28 days
OECD 301F

PIN-2-(10) ENE

Persistence and degradability The product is readily biodegradable.

1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

Persistence and degradability The product is not readily biodegradable.

Biodegradation - Degradation < 60%: 28 day
OECD 301F

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

Persistence and degradability The product is readily biodegradable.

Biodegradation - Degradation 80%: 28 day

2-PINENE

Persistence and degradability The product is readily biodegradable.

CITRAL

Persistence and degradability The substance is readily biodegradable.

ORGANIC ROSE OIL

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

EUGENOL

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.

CITRONELLOL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.41

GERANIOL

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.6

ETHANOL

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Pow: - 0.31

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

TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: 3.3

3,7,11-TRIMETHYLDODECA-1,6,10-TRIEN-3-OL,MIXED ISOMERS

Partition coefficient log Pow: 4.5

GERANYL ACETATE

Bioaccumulative potential Potentially bioaccumulating.

ORGANIC ROSE OIL

Partition coefficient log Pow: 4.5

1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.4

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

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.67

CITRAL

Bioaccumulative potential Bioaccumulation is unlikely. BCF: 89.72,

Partition coefficient log Pow: 2.76

12.4. Mobility in soil

Mobility No information available.

Ecological information on ingredients.

ETHANOL

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces. The product is water-soluble and may spread in water systems.

LINALOOL

Mobility The product is insoluble in water.

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

Mobility The product is insoluble in water.

PIN-2-(10) ENE

Mobility The product is insoluble in water.

2-PINENE

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.

ETHANOL

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

ORGANIC ROSE OIL

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.

12.6. Other adverse effects

Other adverse effects None known.

Ecological information on ingredients.

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.

ETHANOL

Other adverse effects

The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential. 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.

PHENYL ETHYL ALCOHOL

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.

TETRAHYDRO-4-METHYL-2-(2-METHYLPROP-1-ENYL)PYRAN

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

ORGANIC ROSE 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.

EUGENOL

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.

4-ALLYLVERATROLE

Other adverse effects None known.

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)	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

ORGANIC ROSE OIL

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)

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.
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 E2

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

ORGANIC ROSE OIL

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.

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

ORGANIC ROSE 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.
 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

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

2.000

Supersedes date

21/10/2021

SDS number

55508

ORGANIC ROSE OIL

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. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H341 Suspected of causing genetic defects. H351 Suspected of causing cancer. H361f Suspected of damaging fertility. 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

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario

Industrial use of Ethanol as fuel source

Identification

Product name	Ethanol
REACH registration number	01-2119457610-43-XXXX
CAS number	64-17-5
EC number	200-578-6
EU index number	603-002-00-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial use of Ethanol as fuel source
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
<u>Worker</u>	
Process category	PROC16 Use of fuels

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Amounts used

Regional use tonnage: 30000 tonnes/year
Annual amount used in the EU: 300000 tonnes

Frequency and duration of use

Continuous.
Emission days: 300 days/year

Industrial use of Ethanol as fuel source

Environmental factors not influenced by risk management measures

Dilution Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical measures When not in use, keep containers tightly closed. Avoid discharge into drains and the aquatic environment.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Removal efficiency (total): 90%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Sludge is disposed of or recovered.

Disposal method Contain and dispose of waste according to local regulations. Incineration, disposal or recycling at specific offsite provider.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 5.73 kPa @ 20°C

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Potentially exposed body parts Palm of one hand. Covers skin contact area up to 240 cm².

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

No specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method ECETOC TRA v2.0 Environment

Environmental exposure STP: Exposure 0.053 mg/l, PNEC 580 mg/l, RCR 0.0000914
Fresh water: Exposure 0.0152 mg/l, PNEC 0.96 mg/l, RCR 0.000158
Soil: Exposure 0.0006 mg/kg, PNEC 0.63 mg/kg, RCR 0.000952
Marine water: Exposure 0.0016 mg/l, PNEC 0.79 mg/l, RCR 0.00203

Industrial use of Ethanol as fuel source

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA v2.0 Worker

Exposure Worker - inhalation: Exposure 9.6 mg/m³, DNEL 950 mg/m³, RCR 0.0101
Worker - dermal: Exposure 0.3 mg/kg/day, DNEL 343 mg/kg/day, RCR 0.000875
Worker - all relevant routes: Exposure 1.7 mg/kg/day, DNEL 343 mg/kg/day, RCR 0.00496
Worst case assumption



Exposure scenario

Professional use of Ethanol as fuel source

Identification

Product name	Ethanol
REACH registration number	01-2119457610-43-XXXX
CAS number	64-17-5
EC number	200-578-6
EU index number	603-002-00-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional use of Ethanol as fuel source
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
<u>Worker</u>	
Process category	PROC16 Use of fuels

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Amounts used

Regional use tonnage: 380000 tonnes/year
Annual amount used in the EU: 3800000 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Professional use of Ethanol as fuel source

Environmental factors not influenced by risk management measures

Dilution Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical measures When not in use, keep containers tightly closed. Avoid discharge into drains and the aquatic environment.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Removal efficiency (total): 90%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Sludge is disposed of or recovered.

Disposal method Contain and dispose of waste according to local regulations. Incineration, disposal or recycling at specific offsite provider.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 5.73 kPa @ 20°C

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Potentially exposed body parts Palm of one hand. Covers skin contact area up to 240 cm².

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

No specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method ECETOC TRA v2.0 Environment

Environmental exposure STP: Exposure 0.065 mg/l, PNEC 580 mg/l, RCR 0.000112
Fresh water: Exposure 0.0240 mg/l, PNEC 0.96 mg/l, RCR 0.025
Soil: Exposure 0.0273 mg/kg, PNEC 0.63 mg/kg, RCR 0.0433
Marine water: Exposure 0.0016 mg/l, PNEC 0.79 mg/l, RCR 0.00203

Professional use of Ethanol as fuel source

3. Exposure estimation (Health 1)

Assessment method ECETOC TRA v2.0 Worker

Exposure Worker - inhalation: Exposure 9.6 mg/m³, DNEL 950 mg/m³, RCR 0.0101
Worker - dermal: Exposure 0.3 mg/kg/day, DNEL 343 mg/kg/day, RCR 0.000875
Worker - all relevant routes: Exposure 1.7 mg/kg/day, DNEL 343 mg/kg/day, RCR 0.00496
Worst case assumption



Exposure scenario

Consumer use of Ethanol as automotive fuel

Identification

Product name	Ethanol
REACH registration number	01-2119457610-43-XXXX
CAS number	64-17-5
EC number	200-578-6
EU index number	603-002-00-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of Ethanol as automotive fuel
Process scope	Covers consumer uses of automotive fuels only.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Physical state	Liquid
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Amounts used

Annual amount for wide dispersive uses: 3800000 tonnes

Frequency and duration of use

Emission days: 365 days/year

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day
Other factors	Covers use at ambient temperatures.

Risk management measures

Consumer use of Ethanol as automotive fuel

Good practice	Carefully pour from containers.
Technical measures	Do not discharge into drains or watercourses or onto the ground.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	This substance is consumed during use and no waste of the substance is generated.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Amounts used

Amount per use: 100 litre

Frequency and duration of use

Covers frequency up to 1 day/week, , .
Application duration: <5 minutes

Other given operational conditions affecting Non-industrial exposure

Setting	Outdoor.
Temperature	Covers use at ambient temperatures.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

3. Exposure estimation (Environment 1)

Assessment method	ECETOC TRA v2.0 Environment
Environmental exposure	STP: Exposure 0.065 mg/l, PNEC 580 mg/l, RCR 0.000112 Fresh water: Exposure 0.0240 mg/l, PNEC 0.96 mg/l, RCR 0.025 Soil: Exposure 0.0273 mg/kg, PNEC 0.63 mg/kg, RCR 0.0433 Marine water: Exposure 0.0034 mg/l, PNEC 0.79 mg/l, RCR 0.00430

3. Exposure estimation (Health 1)

Assessment method	ConsExpo v4.1
Exposure	Consumer - dermal: Exposure 35.00 mg/kg/day, DNEL 206 mg/kg/day, RCR 0.170 Consumer - inhalation: Exposure 1.54 mg/m³, DNEL 144 mg/m³, RCR 0.0107 Worst case assumption



Exposure scenario

Consumer use of Ethanol as domestic fuel

Identification

Product name	Ethanol
REACH registration number	01-2119457610-43-XXXX
CAS number	64-17-5
EC number	200-578-6
EU index number	603-002-00-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of Ethanol as domestic fuel
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Physical state	Liquid
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Amounts used

Annual amount for wide dispersive uses: 10000 tonnes

Frequency and duration of use

Emission days: 365 days/year

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day
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Consumer use of Ethanol as domestic fuel

Other factors Covers use at ambient temperatures.

Risk management measures

Good practice Carefully pour from containers.

Technical measures Do not discharge into drains or watercourses or onto the ground.

Conditions and measures related to external treatment of waste for disposal

Waste treatment This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Amounts used

Amount per use: 1 litre

Frequency and duration of use

Covers frequency up to 1 day/week, , .

Application duration: <5 minutes

Human factors not influenced by risk management

Potentially exposed body parts Palm of one hand. Covers skin contact area up to 210 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor/outdoor use.

Temperature Covers use at ambient temperatures.

Other given operational conditions affecting Non-industrial exposure

Consumer information Avoid splashing. If risk of splashing, wear safety goggles or face shield.

No specific risk management measure identified beyond those operational conditions stated.

3. Exposure estimation (Environment 1)

Assessment method ECETOC TRA v2.0 Environment

Environmental exposure STP: Exposure 0.340 mg/l, PNEC 580 mg/l, RCR 0.000690
Fresh water: Exposure 0.0447 mg/l, PNEC 0.96 mg/l, RCR 0.0466
Soil: Exposure 0.0003 mg/kg, PNEC 0.63 mg/kg, RCR 0.000476
Marine water: Exposure 0.0044 mg/l, PNEC 0.79 mg/l, RCR 0.00557

3. Exposure estimation (Health 1)

Assessment method ConsExpo v4.1

Exposure Consumer - dermal: Exposure 70.00 mg/kg/day, DNEL 206 mg/kg/day, RCR 0.340
Consumer - inhalation: Exposure 0.81 mg/m³, DNEL 144 mg/m³, RCR 0.000563
Worst case assumption