

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

1.1. Product identifier

Product form	: Mixture
Trade name	: CINNAMON #EU37881F
UFI	: W8WC-4369-4005-PRAU
Product code	: EU37881F
Type of product	: Perfumes, fragrances
Product group	: Trade product

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

Relevant identified uses

Main use category	: Professional use, Industrial use
Industrial/Professional use spec	: For professional use only Industrial
Use of the substance/mixture	: Perfumes, fragrances
Function or use category	: Odour agents

1.3. Details of the supplier of the safety data sheet

FRENCH COLOR & FRAGRANCE INTERNATIONAL GmbH
Mittlerer Weg 35
DE 79424 Auggen
Germany
T 49-7631-931-8900
SDS@frenchcolor.com, www.frenchcolor.com

1.4. Emergency telephone number

Emergency number	: 1-800-255-3924; +01-813-248-0585; China: +400-120-0751; Mexico: +01-800-099-0731; Brazil: +0-800-591-6042; India: +000-800-100-4086
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects. Causes serious eye irritation. May cause an allergic skin reaction.

2.2. Label elements

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

Hazard pictograms (CLP)



GHS07

Signal word (CLP)

: Warning

Contains

: Eugenol; Cinnamic aldehyde; Eucalyptol; Cinnamic alcohol; Linalyl acetate; beta-Caryophyllene; Cardamom oil; Benzyl alcohol

Hazard statements (CLP)

: H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.

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P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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.

2.3. Other hazards

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

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bis(2-ethylhexyl) adipate substance with national workplace exposure limit(s) (PL)	CAS-No.: 103-23-1 EC-No.: 203-090-1 REACH-no: 01-2119439699-19	36.3 – 72.5	Not classified
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1 REACH-no: 01-2119971802-33	5.15 – 10.8	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 EC Index-No.: 606-155-00-6 REACH-no: 01-2119935242-45	2.35 – 4.85	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 3, H412
Eucalyptol	CAS-No.: 470-82-6 EC-No.: 207-431-5 REACH-no: 01-2119967772-24	1.5 – 3.02	Flam. Liq. 3, H226 Skin Sens. 1, H317
Ethyl maltol	CAS-No.: 4940-11-8 EC-No.: 225-582-5	0.9 – 1.8	Acute Tox. 4 (Oral), H302
Cinnamic alcohol	CAS-No.: 104-54-1 EC-No.: 203-212-3 REACH-no: 01-2119934496-29	0.9001 – 1.7002	Acute Tox. 4 (Oral), H302 Skin Sens. 1B, H317
beta-Caryophyllene	CAS-No.: 87-44-5 EC-No.: 201-746-1 REACH-no: 01-2120745237-53	0.65 – 1.7	Asp. Tox. 1, H304 Skin Sens. 1B, H317
Cardamom oil	CAS-No.: 8000-66-6 EC-No.: 288-922-1	0.8 – 1.65	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
benzyl alcohol substance with national workplace exposure limit(s) (BG, CZ, DE, FI, LT, LV, PL, SI, CH)	CAS-No.: 100-51-6 EC-No.: 202-859-9 EC Index-No.: 603-057-00-5 REACH-no: 01-2119492630-38	0.2 – 0.3	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Linalyl acetate	CAS-No.: 115-95-7 EC-No.: 204-116-4 REACH-no: 01-2119454789-19	0.1 – 0.22	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Allyl heptanoate	CAS-No.: 142-19-8 EC-No.: 205-527-1 REACH-no: 01-2119488961-23	0 – 0.05	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 3, H412
(R)-p-mentha-1,8-diene; d-limonene substance with national workplace exposure limit(s) (DE, ES, FI, SI, NO, CH)	CAS-No.: 5989-27-5 EC-No.: 205-341-0 EC Index-No.: 601-096-00-2 REACH-no: 01-2119493353-35	< 0.02	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
.beta.-Pinene substance with national workplace exposure limit(s) (BE, EE, ES, LT, PT, SE, NO)	CAS-No.: 127-91-3 EC-No.: 204-872-5	< 0.02	Flam. Liq. 3, H226
.alpha.-Pinene substance with national workplace exposure limit(s) (BE, EE, ES, LT, PT, SE, NO)	CAS-No.: 80-56-8 EC-No.: 201-291-9	< 0.02	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 EC Index-No.: 606-155-00-6 REACH-no: 01-2119935242-45	(0.001 < C < 0.01) EUH208 (0.01 ≤ C < 0.1) Skin Sens. 1; H317 (0.1 ≤ C < 100) Skin Sens. 1A; H317

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

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First-aid measures after skin contact	: Wash with plenty of water/.... If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation. Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.
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For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : 25 °C

Storage area : Store in a well-ventilated place. Store away from heat.

Special rules on packaging : Store in a closed container.

Packaging materials : Do not store in corrodable metal.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Bis(2-ethylhexyl) adipate (103-23-1)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	400 mg/m ³
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	140 mg/m ³
	25 ppm
HTP (OEL STEL)	280 mg/m ³
	50 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	28 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation, Skin sensitization

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(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Slovenia - Occupational Exposure Limits	
OEL TWA	28 mg/m ³
	5 ppm
OEL STEL	112 mg/m ³
	20 ppm
OEL chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	168 mg/m ³
	30 ppm
OEL chemical category	Sensitizer, skin - potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	140 mg/m ³
	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated)
	37.5 ppm (value calculated)
OEL chemical category	Allergenic substance
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	40 mg/m ³
	7 ppm
KZGW (OEL STEL)	80 mg/m ³
	14 ppm
OEL chemical category	Sensitizer
.beta.-Pinene (127-91-3)	
Belgium - Occupational Exposure Limits	
OEL TWA	20 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	150 mg/m ³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
	25 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL STEL	300 mg/m ³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
	50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	150 mg/m ³
	25 ppm
TPRV (OEL STEL)	300 mg/m ³
	50 ppm

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.beta.-Pinene (127-91-3)	
Portugal - Occupational Exposure Limits	
OEL TWA	20 ppm (Turpentine and selected Monoterpenes)
OEL chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	113 mg/m ³ 20 ppm
OEL chemical category	Sensitizer
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	150 mg/m ³ 25 ppm
KGV (OEL STEL)	300 mg/m ³ 50 ppm
OEL chemical category	Skin sensitizer
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	140 mg/m ³ 25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated) 37.5 ppm (value calculated)
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	20 ppm (Turpentine and selected Monoterpenes)
ACGIH® chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer
.alpha.-Pinene (80-56-8)	
Belgium - Occupational Exposure Limits	
OEL TWA	20 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	150 mg/m ³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect) 25 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL STEL	300 mg/m ³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect) 50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	150 mg/m ³ 25 ppm
TPRV (OEL STEL)	300 mg/m ³ 50 ppm
Portugal - Occupational Exposure Limits	
OEL TWA	20 ppm (Turpentine and selected Monoterpenes)

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.alpha.-Pinene (80-56-8)	
OEL chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	113 mg/m ³ 20 ppm
OEL chemical category	Sensitizer
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	150 mg/m ³ 25 ppm
KGV (OEL STEL)	300 mg/m ³ 50 ppm
OEL chemical category	Skin sensitizer
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	140 mg/m ³ 25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated) 37.5 ppm (value calculated)
OEL chemical category	Skin notation
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	20 ppm (Turpentine and selected Monoterpenes)
ACGIH® chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer
benzyl alcohol (100-51-6)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	40 mg/m ³
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	45 mg/m ³ 10 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	22 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) 5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³
OEL chemical category	Skin notation

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benzyl alcohol (100-51-6)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	240 mg/m ³
Slovenia - Occupational Exposure Limits	
OEL TWA	22 mg/m ³
	5 ppm
OEL STEL	44 mg/m ³
	10 ppm
OEL chemical category	Potential for cutaneous absorption
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	22 mg/m ³ (aerosol, vapour)
	5 ppm (aerosol, vapour)
OEL chemical category	Skin notation

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves. Wear protective gloves.

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate mask

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

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Colour	: Conforms to standard.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 93 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 0.001818002 mm Hg (calculated value)
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: ≈ 0.96
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

Other safety characteristics

VOC content : 4.9493 % (calculated value)(CARB VOC) (%w/w)

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Bis(2-ethylhexyl) adipate (103-23-1)

LD50 oral rat	5600 mg/kg (Source: NLM_CIP)
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Bis(2-ethylhexyl) adipate (103-23-1)	
LD50 dermal rabbit	8410 mg/kg (Source: NLM_CIP)
LC50 Inhalation - Rat	> 5.7 mg/l/4h
Eugenol (97-53-0)	
LD50 oral rat	1930 mg/kg (Source: NZ_CCID)
LD50 oral	2500 mg/kg bodyweight
LC50 Inhalation - Rat	> 2.58 mg/l/4h
Cinnamic aldehyde (104-55-2)	
LD50 oral rat	2220 mg/kg (Source: NLM_CIP)
LD50 oral	2220 mg/kg
LD50 dermal rabbit	1260 mg/kg (Source: EPA_HPVS)
LD50 dermal	1260 mg/kg
Eucalyptol (470-82-6)	
LD50 oral rat	2480 mg/kg (Source: NLM_CIP)
LD50 oral	2480 mg/kg
Cinnamic alcohol (104-54-1)	
LD50 oral	2000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA_API)
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg (Source: CHEMVIEW)
LD50 dermal rabbit	> 5 g/kg (Source: CHEMVIEW)
Linalyl acetate (115-95-7)	
LD50 oral rat	14550 mg/kg (Source: EPA_HPVS)
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA)
LC50 Inhalation - Rat	> 18.94 mg/l (Exposure time: 8 h Source: ECHA)
.beta.-Pinene (127-91-3)	
LD50 oral rat	> 5000 mg/kg (Source: EPA_HPVS)
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)
.alpha.-Pinene (80-56-8)	
LD50 oral rat	3700 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 5000 mg/kg (Source: CHEMVIEW)
Ethyl maltol (4940-11-8)	
LD50 oral rat	1150 mg/kg (Source: NLM_CIP)
LD50 oral	1200 mg/kg
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA_API)
Cardamom oil (8000-66-6)	
LD50 oral rat	5 g/kg (Source: NLM_CIP)

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benzyl alcohol (100-51-6)	
LD50 oral rat	1230 mg/kg (Source: NLM_CIP)
LD50 oral	1570 mg/kg
Allyl heptanoate (142-19-8)	
LD50 oral rat	500 mg/kg (Source: NLM_CIP)
LD50 oral	218 mg/kg
LD50 dermal rabbit	810 mg/kg (Source: ECHA_API)
LD50 dermal	810 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Bis(2-ethylhexyl) adipate (103-23-1)	
IARC group	3 - Not classifiable
Eugenol (97-53-0)	
IARC group	3 - Not classifiable
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Hydrocarbon	Yes
.beta.-Pinene (127-91-3)	
Hydrocarbon	Yes
.alpha.-Pinene (80-56-8)	
Hydrocarbon	Yes
beta-Caryophyllene (87-44-5)	
Hydrocarbon	Yes

11.2. Information on other hazards

Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

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Hazardous to the aquatic environment, long-term (chronic) : Not classified

Bis(2-ethylhexyl) adipate (103-23-1)	
LC50 - Fish [1]	0.48 – 0.85 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
LC50 - Fish [2]	0.48 – 0.85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static] Source: EPA)
EC50 - Crustacea [1]	> 1.6 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	> 500 mg/l (Species: Desmodesmus subspicatus)

Eugenol (97-53-0)	
LC50 - Fish [1]	13 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA)

Eucalyptol (470-82-6)	
LC50 - Fish [1]	95.4 (95.4 – 109) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
LC50 - Fish [1]	0.619 – 0.796 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	35 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: EPA)

Linalyl acetate (115-95-7)	
LC50 - Fish [1]	11 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [flow-through] Source: ECHA)

.alpha.-Pinene (80-56-8)	
LC50 - Fish [1]	0.28 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: IUCLID)
EC50 - Crustacea [1]	41 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Ethyl maltol (4940-11-8)	
LC50 - Fish [1]	> 85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: ECHA)

benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
LC50 - Fish [2]	10 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
EC50 - Crustacea [1]	23 mg/l (Exposure time: 48 h - Species: water flea)

12.2. Persistence and degradability

CINNAMON #EU37881F	
Persistence and degradability	Not established.

Bis(2-ethylhexyl) adipate (103-23-1)	
Persistence and degradability	Rapidly degradable

Eugenol (97-53-0)	
Persistence and degradability	Rapidly degradable

Cinnamic aldehyde (104-55-2)	
Persistence and degradability	Rapidly degradable

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Eucalyptol (470-82-6)	
Persistence and degradability	Rapidly degradable
Cinnamic alcohol (104-54-1)	
Persistence and degradability	Rapidly degradable
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Persistence and degradability	Rapidly degradable
Linalyl acetate (115-95-7)	
Persistence and degradability	Rapidly degradable
.beta.-Pinene (127-91-3)	
Persistence and degradability	Rapidly degradable
.alpha.-Pinene (80-56-8)	
Persistence and degradability	Rapidly degradable
beta-Caryophyllene (87-44-5)	
Persistence and degradability	Rapidly degradable
Ethyl maltol (4940-11-8)	
Persistence and degradability	Rapidly degradable
Cardamom oil (8000-66-6)	
Persistence and degradability	Rapidly degradable
benzyl alcohol (100-51-6)	
Persistence and degradability	Rapidly degradable
Allyl heptanoate (142-19-8)	
Persistence and degradability	Rapidly degradable
12.3. Bioaccumulative potential	
CINNAMON #EU37881F	
Bioaccumulative potential	Not established.
Bis(2-ethylhexyl) adipate (103-23-1)	
BCF - Fish [1]	(27 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	8.94 (at 25 °C)
Eugenol (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	1.83 (at 30 °C (at pH 5.5))
Cinnamic aldehyde (104-55-2)	
Partition coefficient n-octanol/water (Log Pow)	2.1065 (at 25 °C)
Eucalyptol (470-82-6)	
Partition coefficient n-octanol/water (Log Pow)	3.4
Cinnamic alcohol (104-54-1)	
Partition coefficient n-octanol/water (Log Pow)	1.636 (at 27 °C (at pH 3.52))

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(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Partition coefficient n-octanol/water (Log Pow)	4.38 (at 37 °C (at pH 7.2))
Linalyl acetate (115-95-7)	
Partition coefficient n-octanol/water (Log Pow)	3.9 (at 25 °C)
.beta.-Pinene (127-91-3)	
Partition coefficient n-octanol/water (Log Pow)	4.4 (at 25 °C)
.alpha.-Pinene (80-56-8)	
Partition coefficient n-octanol/water (Log Pow)	4.1
beta-Caryophyllene (87-44-5)	
Partition coefficient n-octanol/water (Log Pow)	6.23 (at 25 °C (at pH 7))
Ethyl maltol (4940-11-8)	
Partition coefficient n-octanol/water (Log Pow)	2.9 (at 25 °C)
benzyl alcohol (100-51-6)	
Partition coefficient n-octanol/water (Log Pow)	1.05
Allyl heptanoate (142-19-8)	
Partition coefficient n-octanol/water (Log Pow)	3.97 (at 20 °C (at pH 5.3))

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

CINNAMON #EU37881F	
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with local/national laws and regulations. Dispose in a safe manner in accordance with local/national regulations.
Ecological waste information	: Avoid release to the environment.
HP Code	: HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

SECTION 14: Transport information

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

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ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Eucalyptol ; d-Limonene ; .beta.-Pinene ; .alpha.-Pinene ; Cardamom oil	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F

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EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	CINNAMON #EU37881F ; Eugenol ; Cinnamic aldehyde ; Eucalyptol ; d-Limonene ; Linalyl acetate ; .alpha.-Pinene ; beta-Caryophyllene ; Cardamom oil ; Benzyl alcohol ; Allyl heptanoate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Cinnamic aldehyde ; d-Limonene ; .alpha.-Pinene ; Cardamom oil ; Allyl heptanoate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

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

PIC Regulation (Prior Informed Consent)

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

POP Regulation (Persistent Organic Pollutants)

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

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : 4.9493 % (calculated value)(CARB VOC) (%w/w)

Explosives Precursors Regulation (EU 2019/1148)

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

Drug Precursors Regulation (EC 273/2004)

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

National regulations

Germany

VOC ordinance (ChemVOCFarbV) : VOC content : 4.9493 % (calculated value)(CARB VOC) (%w/w)

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).

List of sensitizing substances (TRGS 907) : Contains sensitizing substances according TRGS 907.

Major Accidents Ordinance (12. BImSchV) : Is not subject to the Major Accidents Ordinance (12. BImSchV)

Netherlands

ABM category : A(2) - toxic for aquatic organisms, may have longterm hazardous effects in aquatic environment

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

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SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)
Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as ammended)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level

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Abbreviations and acronyms:	
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3

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Full text of H- and EUH-statements:	
Asp. Tox. 1	Aspiration hazard, Category 1
EUH208	Contains {0 message≦name of sensitising substance>[fieldvalue=_SENSITIZER_COMPONENTS}. May produce an allergic reaction.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
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.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.