CO2 Cinnamon bark

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Issue date: 11/2/2022 Revision date: 4/29/2025 Supersedes version of: 11/2/2022 Version: 2.0

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

1.1. Product identifier

Product form	:	Substance (UVCB)
Substance name	:	CO2 Cinnamon bark
IUPAC name	:	Cinnamomum zeylanicum, ext.
EC-No.	:	283-479-0
CAS-No.	:	84649-98-9
Product code	:	22101
Product group	:	Trade product

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

1.2.1. Relevant identified uses

Intended for general public

Main use category	:	Professional use,Consumer use
Use of the substance/mixture	:	Fragrance raw material

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

De Hekserij
Spoorstraat 57
8271 RG IJsselmuiden
Nederland
T +31 383 557 927
hekserij@hekserij.nl, www.hekserij.nl

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

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

Adverse physicochemical, human health and environmental effects

May cause respiratory irritation. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning

Contains : Cinnamic alcohol; Cinnamic aldehyde; Coumarin; Eugenol; Dipentene; Linalool; 2'-Methoxycinnamaldehyde

Hazard statements (CLP)	:	H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	:	P102 - Keep out of reach of children. P261 - Avoid breathing vapours, mist, fume. P264 - Wash hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves, protective clothing, face protection, eye protection. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 - Call a POISON CENTER, doctor if you feel unwell. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Extra phrases	:	Fragrance allergens (Cosmetics): BENZYL SALICYLATE BENZYL ALCOHOL BENZALDEHYDE COUMARIN LIMONENE CINNAMYL ALCOHOL LINALOOL BENZYL BENZOATE EUGENOL CINNAMAL.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	:	UVCB
Name	:	CO2 Cinnamon bark
CAS-No.	:	84649-98-9
EC-No.	:	283-479-0

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CO2 Cinnamon bark	CAS-No.: 84649-98-9 EC-No.: 283-479-0	100	See Section 2.1
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 REACH-no: 01-2119935242-45	50 - 75	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
2'-methoxycinnamaldehyde	CAS-No.: 1504-74-1 EC-No.: 216-131-3	0 - 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Benzyl benzoate	CAS-No.: 120-51-4 EC-No.: 204-402-9 EC Index-No.: 607-085-00-9	0 - 3	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1	0 - 3	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Cinnamic alcohol	CAS-No.: 104-54-1 EC-No.: 203-212-3 REACH-no: 01-2119934496-29	0 - 2	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Linalool	CAS-No.: 78-70-6 EC-No.: 201-134-4 EC Index-No.: 603-235-00-2	0 - 2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Dipentene	CAS-No.: 138-86-3 EC-No.: 205-341-0 EC Index-No.: 601-029-00-7	≤ 0.5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Benzaldehyde	CAS-No.: 100-52-7 EC-No.: 202-860-4 EC Index-No.: 605-012-00-5 REACH-no: 01-2119455540-44	≤ 0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 2, H411
Coumarin	CAS-No.: 91-64-5 EC-No.: 202-086-7	≤ 0.1	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Longifolene	CAS-No.: 475-20-7 EC-No.: 207-491-2	≤ 0.06	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Benzyl alcohol	CAS-No.: 100-51-6 EC-No.: 202-859-9 EC Index-No.: 603-057-00-5 REACH-no: 01-2119492630-38	≤ 0.04	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317
Safrole	CAS-No.: 94-59-7 EC-No.: 202-345-4	≤ 0.03	Acute Tox. 4 (Oral), H302 Muta. 2, H341 Carc. 1B, H350
Benzyl salicylate	CAS-No.: 118-58-1 EC-No.: 204-262-9 EC Index-No.: 607-754-00-5 REACH-no: 01-2119969442-31	≤ 0.02	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Cedrene	CAS-No.: 11028-42-5 EC-No.: 234-257-7	≤ 0.02	Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methyl eugenol	CAS-No.: 93-15-2 EC-No.: 202-223-0	≤ 0.015	Acute Tox. 4 (Oral), H302 Muta. 2, H341 Carc. 2, H351
Estragole	CAS-No.: 140-67-0 EC-No.: 205-427-8	≤ 0.005	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412

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

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse 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 : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : 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 : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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 : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

CO2 Cinnamon bark (84649-98-9)	
PNEC (Water)	
PNEC aqua (freshwater)	1.05 µg/l
PNEC aqua (marine water)	0.105 µg/l

CO2 Cinnamon bark (84649-98-9)	
PNEC aqua (intermittent, freshwater)	10.5 µg/l
PNEC (STP)	
PNEC sewage treatment plant	0.3 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	No data available
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	< -20 °C
Freezing point	:	No data available
Boiling point	:	245.7 °C Atm. press.: 99,1 kPa Decomposition: 'no'
Flash point	:	> 65 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable

Vapour pressure	:	10.51 Pa Temp.: 25 °C
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.02 – 1.033 g/cm³ Temp.: 20 °C
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

CO2 Cinnamon bark (84649-98-9)	
LD50 oral rat	2650 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: other:

Benzaldehyde (100-52-7)	
LD50 oral rat	≈ 1430 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1,33 - 1,54
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit
LC50 Inhalation - Rat	1 – 5 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)

Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg Species: rat
LD50 oral	1580 mg/kg bodyweight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1410 - 1770
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 4.178 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Benzyl benzoate (120-51-4)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Benzyl salicylate (118-58-1)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Cinnamic alcohol (104-54-1)	
LD50 oral rat	2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Cinnamic aldehyde (104-55-2)	
LD50 oral rat	2220 mg/kg bodyweight Animal: rat, Guideline: other:, 95% CL: 1910 - 2600
LD50 oral	3400 mg/kg bodyweight Animal: guinea pig, Guideline: other:
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	1260 mg/kg bodyweight Animal: rabbit, Guideline: other:
LC50 Inhalation - Rat [ppm]	68.88871 ppm Animal: rat, Guideline: other:

Coumarin (91-64-5)	
LD50 oral rat	293 mg/kg bodyweight Animal: rat, Guideline: other:no data
LD50 dermal rat	293 mg/kg bodyweight Animal: rat, Guideline: other:no data

Estragole (140-67-0)	
LD50 oral rat	300 – 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

Eugenol (97-53-0)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 oral	1500 – 1500 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

Linalool (78-70-6)	
LD50 oral rat	2790 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2440 - 3180
LD50 oral	3120 mg/kg bodyweight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2620 - 3620
LD50 dermal rabbit	5610 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 3578 - 8374

Longifolene (475-20-7)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Methyl eugenol (93-15-2)	
LD50 oral rat	2500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Causes skin irritation.

Cinnamic alcohol (104-54-1)	
pH	4.71 Temp.: 26,5 °C Concentration: 1 vol%

Serious eye damage/irritation : Causes serious eye irritation.

Cinnamic alcohol (104-54-1)	
pH	4.71 Temp.: 26,5 °C Concentration: 1 vol%

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Benzyl salicylate (118-58-1)	
NOAEL (animal/female, F0/P)	158 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure : May cause respiratory irritation.

Benzaldehyde (100-52-7)	
STOT-single exposure	May cause respiratory irritation.

2'-methoxycinnamaldehyde (1504-74-1)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Benzyl alcohol (100-51-6)	
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: other:

Benzyl benzoate (120-51-4)	
NOAEL (dermal, rat/rabbit, 90 days)	781 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Benzyl salicylate (118-58-1)	
NOAEL (oral, rat, 90 days)	177 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Cinnamic alcohol (104-54-1)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Cinnamic aldehyde (104-55-2)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Coumarin (91-64-5)	
NOAEL (subchronic, oral, animal/female, 90 days)	> 138.3 mg/kg bodyweight Animal: mouse, Animal sex: female

Eugenol (97-53-0)	
NOAEL (subchronic, oral, animal/male, 90 days)	≥ 900 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: other:
NOAEL (subchronic, oral, animal/female, 90 days)	450 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: other:

Linalool (78-70-6)	
NOAEL (dermal, rat/rabbit, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Methyl eugenol (93-15-2)	
NOAEL (oral, rat, 90 days)	> 300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard : Not classified

Benzaldehyde (100-52-7)	
Viscosity, kinematic	1.258 mm²/s

Benzyl alcohol (100-51-6)	
Viscosity, kinematic	4.851 mm²/s

Benzyl salicylate (118-58-1)	
Viscosity, kinematic	17 mm²/s Temp.: 20 °C

Cinnamic alcohol (104-54-1)	
Viscosity, kinematic	27.45 mm²/s

Coumarin (91-64-5)	
Viscosity, kinematic	Not applicable

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

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

Benzaldehyde (100-52-7)	
LC50 - Fish [1]	12.4 mg/l Test organisms (species):
EC50 - Crustacea [1]	19.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	33.1 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	8.05 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC chronic fish	0.12 mg/l Test organisms (species): Pimephales promelas Duration: '7 d'

Benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	230 mg/l Test organisms (species): Daphnia magna

Benzyl alcohol (100-51-6)	
EC50 72h - Algae [1]	770 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	500 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	76.828 mg/l Test organisms (species): other:
NOEC chronic fish	48.897 mg/l Test organisms (species): other: Duration: '30 d'
NOEC chronic crustacea	51 mg/l Species: Daphnia magna, duration: 21 days

Benzyl benzoate (120-51-4)	
LC50 - Fish [1]	2.32 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	3.09 mg/l Test organisms (species): Daphnia magna

Benzyl salicylate (118-58-1)	
LC50 - Fish [1]	1.03 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.16 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.691 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	1.29 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Cinnamic alcohol (104-54-1)	
LC50 - Fish [1]	9 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	7.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	19.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Cinnamic aldehyde (104-55-2)	
LC50 - Fish [1]	2.35 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	119.5578 mg/l Test organisms (species): Daphnia magna
NOEC chronic fish	15.159 mg/l Test organisms (species): other: Duration: '28 d'

Coumarin (91-64-5)	
LC50 - Fish [1]	2.94 mg/l Test organisms (species):
LC50 - Fish [2]	1324 mg/l Test organisms (species):
EC50 - Crustacea [1]	8.012 mg/l Test organisms (species): Daphnia sp.
EC50 96h - Algae [1]	1.452 mg/l Test organisms (species):
NOEC (chronic)	0.5 mg/l Test organisms (species): Duration: '21 d'
NOEC chronic fish	0.191 mg/l Test organisms (species): Duration: '30 d'

Estragole (140-67-0)	
EC50 - Crustacea [1]	8.87 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	2.81 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Eugenol (97-53-0)	
LC50 - Fish [1]	13 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.05 mg/l Test organisms (species): Daphnia magna

Linalool (78-70-6)	
LC50 - Fish [1]	27.8 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	59 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	88.3 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [2]	156.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Longifolene (475-20-7)	
EC50 - Crustacea [1]	0.119 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.28 mg/l Test organisms (species): other:

Methyl eugenol (93-15-2)	
EC50 - Crustacea [1]	≈ 38 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	≈ 22 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	9.6 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	8.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	11.972 mg/l Test organisms (species):

12.2. Persistence and degradability

CO2 Cinnamon bark (84649-98-9)	
Persistence and degradability	Not rapidly degradable

Benzaldehyde (100-52-7)	
Persistence and degradability	Not rapidly degradable

Benzyl alcohol (100-51-6)	
Persistence and degradability	Not rapidly degradable

Benzyl benzoate (120-51-4)	
Persistence and degradability	Not rapidly degradable

Benzyl salicylate (118-58-1)	
Persistence and degradability	Not rapidly degradable

Cinnamic alcohol (104-54-1)	
Persistence and degradability	Not rapidly degradable

Cinnamic aldehyde (104-55-2)	
Persistence and degradability	Not rapidly degradable

Coumarin (91-64-5)	
Persistence and degradability	Not rapidly degradable

Estragole (140-67-0)	
Persistence and degradability	Not rapidly degradable

Eugenol (97-53-0)	
Persistence and degradability	Not rapidly degradable

Dipentene (138-86-3)	
Persistence and degradability	Not rapidly degradable

Linalool (78-70-6)	
Persistence and degradability	Not rapidly degradable

Longifolene (475-20-7)	
Persistence and degradability	Not rapidly degradable

Methyl eugenol (93-15-2)	
Persistence and degradability	Not rapidly degradable

Cedrene (11028-42-5)	
Persistence and degradability	Not rapidly degradable

2'-methoxycinnamaldehyde (1504-74-1)	
Persistence and degradability	Not rapidly degradable

Safrole (94-59-7)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Benzaldehyde (100-52-7)	
Partition coefficient n-octanol/water (Log Pow)	1.4 Temp.: 25 °C

Benzyl alcohol (100-51-6)	
Bioconcentration factor (BCF REACH)	1.37
Partition coefficient n-octanol/water (Log Pow)	1.1

Benzyl benzoate (120-51-4)	
Partition coefficient n-octanol/water (Log Kow)	3.97 Temp.: 25 °C

Benzyl salicylate (118-58-1)	
Partition coefficient n-octanol/water (Log Pow)	4

Cinnamic alcohol (104-54-1)	
Partition coefficient n-octanol/water (Log Kow)	1.452 Temp.: 25 °C

Coumarin (91-64-5)	
Partition coefficient n-octanol/water (Log Pow)	1.39
Partition coefficient n-octanol/water (Log Kow)	1.63

12.4. Mobility in soil

Benzyl salicylate (118-58-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.75

Cinnamic alcohol (104-54-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.068

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN 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. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(a)	Dipentene	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
3(b)	CO2 Cinnamon bark ; Benzaldehyde ; Benzyl alcohol ; Benzyl benzoate ; Benzyl salicylate ; Cinnamic alcohol ; Cinnamic aldehyde ; Estragole ; Eugenol ; Dipentene ; Linalool ; Longifolene ; Methyl eugenol ; Cedrene ; 2'-methoxycinnamaldehyde ; Safrole	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)	Benzaldehyde ; Benzyl benzoate ; Benzyl salicylate ; Cinnamic alcohol ; Cinnamic aldehyde ; Estragole ; Dipentene ; Longifolene ; Cedrene	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
40.	Dipentene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

REACH Annex XIV (Authorisation List)

Not 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)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

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

Explosives Precursors Regulation (2019/1148)

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

Drug Precursors Regulation (273/2004)

Contains 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)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Safrole		94-59-7	2932 94 00	Category 1		Annex I

15.1.2. National regulations

Netherlands

SZW-lijst van kankerverwekkende stoffen : CO2 Cinnamon bark is listed
SZW-lijst van mutagene stoffen : CO2 Cinnamon bark is listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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

Abbreviations and acronyms:	
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

Full text of H- and EUH-statements:	
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
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Muta. 2	Germ cell mutagenicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
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.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Full text of H- and EUH-statements:	
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
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.

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.