



DE HEKSERIJ

# EO Cardamom seed

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Issue date: 5/1/2023 Revision date: 10/27/2025 Supersedes version of: 3/6/2024 Version: 3.0

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

#### 1.1. Product identifier

|                               |                                                                                                                                                                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product form                  | : Substance (UVCB)                                                                                                                                                                                                                                     |
| Substance name                | : EO Cardamom seed                                                                                                                                                                                                                                     |
| IUPAC name                    | : Cardamom, ext.                                                                                                                                                                                                                                       |
| EC-No.                        | : 288-922-1                                                                                                                                                                                                                                            |
| CAS-No.                       | : 85940-32-5                                                                                                                                                                                                                                           |
| Product code                  | : 20168                                                                                                                                                                                                                                                |
| Product group                 | : Trade product                                                                                                                                                                                                                                        |
| Other means of identification | : Extractives and their physically modified derivatives such as tinctures, concretes, absolutes, essential oils, oleoresins, terpenes, terpene-free fractions, distillates, residues, etc., obtained from <i>Elettaria cardamomum</i> , Zingiberaceae. |

#### 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            | : Consumer use, Professional 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  
Sporstraat 57  
8271 RG IJsselmuiden  
Nederland  
T +31 383 557 927  
[hekserij@hekserij.nl](mailto:hekserij@hekserij.nl), [www.hekserij.nl](http://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]

|                                                                   |      |
|-------------------------------------------------------------------|------|
| Flammable liquids, Category 3                                     | H226 |
| Skin corrosion/irritation, Category 2                             | H315 |
| Serious eye damage/eye irritation, Category 2                     | H319 |
| Skin sensitisation, Category 1                                    | H317 |
| Aspiration hazard, Category 1                                     | H304 |
| Hazardous to the aquatic environment – Chronic Hazard, Category 2 | H411 |

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

##### Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.

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### 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H226 - Flammable liquid and vapour.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.  
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP)

: P102 - Keep out of reach of children.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P261 - Avoid breathing vapours, fume, spray.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, face protection, eye protection, protective clothing.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
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.  
P331 - Do NOT induce vomiting.  
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.  
P391 - Collect spillage.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
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):  
2 PINENE  
1,5 TERPINEOL  
1 GERANYL ACETATE  
1 LINALYL ACETATE  
1 GERANIOL  
1 LINALOOL  
0,7 ALPHA-TERPINENE  
0,5 TERPINOLENE  
0,4 CITRAL  
0,3 BETA-PINENES  
0,1 FARNESOL.

### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : UVCB  
Name : EO Cardamom seed  
CAS-No. : 85940-32-5

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EC-No. : 288-922-1

| Name              | Product identifier                                                    | %       | Classification according to Regulation (EC) No. 1272/2008 [CLP]                                                                                                        |
|-------------------|-----------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EO Cardamom seed  | CAS-No.: 85940-32-5<br>EC-No.: 288-922-1                              | 100     | See Section 2.1                                                                                                                                                        |
| Eucalyptol        | CAS-No.: 470-82-6<br>EC-No.: 207-431-5                                | 25 – 50 | Flam. Liq. 3, H226<br>Skin Sens. 1B, H317                                                                                                                              |
| d-Limonene        | CAS-No.: 5989-27-5<br>EC-No.: 227-813-5<br>EC Index-No.: 601-096-00-2 | 3 – 5   | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410                              |
| Myrcene           | CAS-No.: 123-35-3<br>EC-No.: 204-622-5                                | 1 – 3   | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Asp. Tox. 1, H304<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410                               |
| alpha-Pinene      | CAS-No.: 80-56-8<br>EC-No.: 201-291-9                                 | 1 – 3   | Flam. Liq. 3, H226<br>Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |
| 4-Carvomenthenol  | CAS-No.: 562-74-3<br>EC-No.: 209-235-5                                | 1 – 3   | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Chronic 3, H412                                                                      |
| p-menth-1-en-8-ol | CAS-No.: 98-55-5<br>EC-No.: 202-680-6<br>REACH-no: 01-2119980717-23   | 1 – 3   | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319                                                                                                                              |
| gamma-Terpinene   | CAS-No.: 99-85-4<br>EC-No.: 202-794-6                                 | 1 – 3   | Flam. Liq. 3, H226<br>Repr. 2, H361<br>Aquatic Chronic 2, H411                                                                                                         |
| Linalool          | CAS-No.: 78-70-6<br>EC-No.: 201-134-4<br>EC Index-No.: 603-235-00-2   | 1 – 3   | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1B, H317                                                                                                       |
| Geraniol          | CAS-No.: 106-24-1<br>EC-No.: 203-377-1                                | 1 – 3   | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317                                                                                                          |
| Linalyl acetate   | CAS-No.: 115-95-7<br>EC-No.: 204-116-4<br>REACH-no: 01-2119454789-19  | 1 – 3   | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317                                                                                                        |
| Geranyl acetate   | CAS-No.: 105-87-3<br>EC-No.: 203-341-5<br>REACH-no: 01-2119973480-35  | 1 – 3   | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412                                                                                                   |

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| Name                                                    | Product identifier                                                                                  | %   | Classification according to Regulation (EC) No. 1272/2008 [CLP]                                                       |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------|
| alpha-Terpinene                                         | CAS-No.: 99-86-5<br>EC-No.: 202-795-1<br>EC Index-No.: 601-095-00-7                                 | < 1 | Flam. Liq. 3, H226<br>Acute Tox. 4 (Oral), H302<br>Skin Sens. 1, H317<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411 |
| 3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers | CAS-No.: 7212-44-4<br>EC-No.: 230-597-5<br>REACH-no: 01-2119457636-29                               | < 1 | Eye Irrit. 2, H319<br>Skin Sens. 1B, H317<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410                         |
| beta-Pinene                                             | CAS-No.: 127-91-3<br>EC-No.: 204-872-5                                                              | < 1 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304                                 |
| Terpinolene                                             | CAS-No.: 586-62-9<br>EC-No.: 209-578-0                                                              | < 1 | Skin Sens. 1B, H317<br>Asp. Tox. 1, H304<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410                          |
| para-Cymene                                             | CAS-No.: 99-87-6<br>EC-No.: 202-796-7<br>EC Index-No.: 601-094-00-1                                 | < 1 | Flam. Liq. 3, H226<br>Acute Tox. 3 (Inhalation:dust,mist), H331<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411       |
| Citral                                                  | CAS-No.: 5392-40-5<br>EC-No.: 226-394-6<br>EC Index-No.: 605-019-00-3<br>REACH-no: 01-2119462829-23 | < 1 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317                                                       |

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 physician immediately.                                                                                                                                                  |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing.                                                                                                                 |
| First-aid measures after skin contact | : Rinse skin with water/shower. Take off immediately all 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    | : Do not induce vomiting. Call a physician immediately.                                                                                                                          |

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

|                                     |                                                                                                                                         |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Symptoms/effects after inhalation   | : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard. |
| Symptoms/effects after skin contact | : Irritation. May cause an allergic skin reaction.                                                                                      |
| Symptoms/effects after eye contact  | : Eye irritation.                                                                                                                       |
| Symptoms/effects after ingestion    | : Risk of lung oedema.                                                                                                                  |

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

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : 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

Fire hazard : Flammable liquid and vapour.  
Explosion hazard : No direct explosion hazard.  
Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.  
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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.  
Absorb spillage to prevent material damage.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

##### 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".  
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.  
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
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

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.  
Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

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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

Technical measures : Ground/bond container and receiving equipment.  
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.  
Packaging materials : Store always product in container of same material as original container.

### 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

| EO Cardamom seed (85940-32-5)                      |                        |
|----------------------------------------------------|------------------------|
| EU - Indicative Occupational Exposure Limit (IOEL) |                        |
| IOEL TWA                                           | 800 mg/m <sup>3</sup>  |
| IOEL STEL                                          | 1600 mg/m <sup>3</sup> |

#### 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

No additional information available

#### 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:

Wear recommended personal protective 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

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### 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                                          | : light brown.                                                                    |
| 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 Remarks on result: 'other:'                                            |
| Freezing point                                  | : No data available                                                               |
| Boiling point                                   | : 200.85 °C Atm. press.: 98,8 kPa Decomposition: 'no' Remarks on result: 'other:' |
| Flash point                                     | : 61 °C                                                                           |
| Auto-ignition temperature                       | : No data available                                                               |
| Decomposition temperature                       | : No data available                                                               |
| Flammability (solid, gas)                       | : Not applicable                                                                  |
| Vapour pressure                                 | : No data available                                                               |
| Relative vapour density at 20°C                 | : No data available                                                               |
| Relative density                                | : 0.926 Type: 'relative density' Temp.: 20 °C                                     |
| Solubility                                      | : No data available                                                               |
| 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

Flammable liquid and vapour.

### 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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

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### 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

#### d-Limonene (5989-27-5)

|               |                                                                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| LD50 oral rat | > 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method) |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|

#### Myrcene (123-35-3)

|                    |                                                                                   |
|--------------------|-----------------------------------------------------------------------------------|
| LD50 oral rat      | > 11390 mg/kg bodyweight Animal: rat                                              |
| LD50 oral          | > 3380 mg/kg bodyweight Animal: mouse                                             |
| LD50 dermal rabbit | > 5000 mg/l Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

#### alpha-Pinene (80-56-8)

|                 |                                                                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)) |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------|

#### 4-Carvomenthenol (562-74-3)

|                    |                                                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| LD50 oral rat      | 1300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)                                         |
| LD50 dermal rabbit | 2500 – 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other: |

#### p-menth-1-en-8-ol (98-55-5)

|                 |                                                                                                                               |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| LD50 oral rat   | 4300 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700 |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)                                    |

#### gamma-Terpinene (99-85-4)

|                 |                                                                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 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, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)                                              |

#### 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 |

#### Geraniol (106-24-1)

|                    |                                                        |
|--------------------|--------------------------------------------------------|
| LD50 oral rat      | 3600 mg/kg bodyweight Animal: rat, 95% CL: 2840 - 4570 |
| LD50 dermal rabbit | > 5000 mg/kg bodyweight Animal: rabbit                 |

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|                                                                            |                                                                                                                                          |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Linalyl acetate (115-95-7)</b>                                          |                                                                                                                                          |
| LD50 oral rat                                                              | > 9000 mg/kg bodyweight Animal: rat                                                                                                      |
| LD50 dermal rabbit                                                         | > 5000 mg/kg bodyweight Animal: rabbit                                                                                                   |
| <b>Geranyl acetate (105-87-3)</b>                                          |                                                                                                                                          |
| LD50 oral rat                                                              | 6330 mg/kg bodyweight Animal: rat, 95% CL: 5450 - 7340                                                                                   |
| <b>alpha-Terpinene (99-86-5)</b>                                           |                                                                                                                                          |
| LD50 dermal rat                                                            | > 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)                           |
| <b>3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers (7212-44-4)</b> |                                                                                                                                          |
| LD50 oral rat                                                              | > 2610 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)                                                 |
| LD50 dermal rabbit                                                         | > 5000 mg/kg bodyweight Animal: rabbit                                                                                                   |
| <b>Terpinolene (586-62-9)</b>                                              |                                                                                                                                          |
| 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)                           |
| <b>para-Cymene (99-87-6)</b>                                               |                                                                                                                                          |
| LD50 dermal rabbit                                                         | > 5000 mg/kg bodyweight Animal: rabbit, Guideline: other:                                                                                |
| <b>Citral (5392-40-5)</b>                                                  |                                                                                                                                          |
| LD50 oral rat                                                              | ≈ 6800 mg/kg bodyweight Animal: rat                                                                                                      |
| LD50 dermal rat                                                            | > 2000 mg/kg bodyweight Animal: rat                                                                                                      |
| Skin corrosion/irritation                                                  | : Causes skin irritation.                                                                                                                |
| <b>4-Carvomenthenol (562-74-3)</b>                                         |                                                                                                                                          |
| pH                                                                         | 6.8 – 7.1 Temp.: 20 °C                                                                                                                   |
| Serious eye damage/irritation                                              | : Causes serious eye irritation.                                                                                                         |
| <b>4-Carvomenthenol (562-74-3)</b>                                         |                                                                                                                                          |
| pH                                                                         | 6.8 – 7.1 Temp.: 20 °C                                                                                                                   |
| Respiratory or skin sensitisation                                          | : May cause an allergic skin reaction.                                                                                                   |
| Germ cell mutagenicity                                                     | : Not classified                                                                                                                         |
| Carcinogenicity                                                            | : Not classified                                                                                                                         |
| <b>Geraniol (106-24-1)</b>                                                 |                                                                                                                                          |
| NOAEL (chronic, oral, animal/male, 2 years)                                | 60 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| <b>Citral (5392-40-5)</b>                                                  |                                                                                                                                          |
| NOAEL (chronic, oral, animal/male, 2 years)                                | 60 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| Reproductive toxicity                                                      | : Reproductive toxicity: Not classified.                                                                                                 |
| <b>d-Limonene (5989-27-5)</b>                                              |                                                                                                                                          |
| NOAEL (animal/female, F0/P)                                                | 600 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:                                                                  |

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|                                                  |                                                                                                                                                                                                                                   |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>gamma-Terpinene (99-85-4)</b>                 |                                                                                                                                                                                                                                   |
| NOAEL (animal/male, F1)                          | 250 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)                                           |
| NOAEL (animal/female, F1)                        | 100 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)                                         |
| STOT-single exposure                             | : Not classified                                                                                                                                                                                                                  |
| STOT-repeated exposure                           | : Not classified                                                                                                                                                                                                                  |
| <b>Eucalyptol (470-82-6)</b>                     |                                                                                                                                                                                                                                   |
| NOAEL (oral, rat, 90 days)                       | 600 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other., Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3150 (90-Day Oral Toxicity in Non-rodents) |
| <b>Myrcene (123-35-3)</b>                        |                                                                                                                                                                                                                                   |
| LOAEL (oral, rat, 90 days)                       | 250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                                                                                             |
| NOAEL (subchronic, oral, animal/male, 90 days)   | 500 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                                                                         |
| NOAEL (subchronic, oral, animal/female, 90 days) | 250 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                                                                       |
| <b>p-menth-1-en-8-ol (98-55-5)</b>               |                                                                                                                                                                                                                                   |
| NOAEL (oral, rat, 90 days)                       | ≥ 314 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                                                                                           |
| <b>Linalool (78-70-6)</b>                        |                                                                                                                                                                                                                                   |
| NOAEL (dermal, rat/rabbit, 90 days)              | 250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)                                                                                                                        |
| <b>Geraniol (106-24-1)</b>                       |                                                                                                                                                                                                                                   |
| NOAEL (dermal, rat/rabbit, 90 days)              | 300 mg/kg bodyweight Animal: rat, Guideline: other., Guideline: other:                                                                                                                                                            |
| <b>Linalyl acetate (115-95-7)</b>                |                                                                                                                                                                                                                                   |
| NOAEL (dermal, rat/rabbit, 90 days)              | 250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)                                                                                                                        |
| <b>Geranyl acetate (105-87-3)</b>                |                                                                                                                                                                                                                                   |
| NOAEL (oral, rat, 90 days)                       | 2000 mg/kg bodyweight Animal: rat, Guideline: other:                                                                                                                                                                              |
| <b>Citral (5392-40-5)</b>                        |                                                                                                                                                                                                                                   |
| LOAEC (inhalation, rat, gas, 90 days)            | 68 ppm Animal: rat, Animal sex: female                                                                                                                                                                                            |
| NOAEL (oral, rat, 90 days)                       | 100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)                                                                                                             |
| NOAEC (inhalation, rat, gas, 90 days)            | 34 ppm Animal: rat, Animal sex: female                                                                                                                                                                                            |
| NOAEL (subchronic, oral, animal/male, 90 days)   | 60 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)                                                                                          |
| Aspiration hazard                                | : May be fatal if swallowed and enters airways.                                                                                                                                                                                   |
| <b>Linalyl acetate (115-95-7)</b>                |                                                                                                                                                                                                                                   |
| Viscosity, kinematic                             | 2.772 mm²/s                                                                                                                                                                                                                       |

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| Geranyl acetate (105-87-3)                                          |                         |
|---------------------------------------------------------------------|-------------------------|
| Viscosity, kinematic                                                | 2.71 mm²/s Temp.: 20 °C |
| 3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers (7212-44-4) |                         |
| Viscosity, kinematic                                                | 15.8 mm²/s Temp.: 20 °C |
| Citral (5392-40-5)                                                  |                         |
| Viscosity, kinematic                                                | 2.42 mm²/s Temp.: 20 °C |

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.  
Hazardous to the aquatic environment, short-term (acute) : Not classified.  
Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

| EO Cardamom seed (85940-32-5) |                                                                                                                                           |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| EC50 - Crustacea [1]          | 0.307 mg/l Test organisms (species): Daphnia magna                                                                                        |
| EC50 - Crustacea [2]          | 0.475 mg/l Test organisms (species): Daphnia magna                                                                                        |
| EC50 96h - Algae [1]          | > 74 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

| Eucalyptol (470-82-6) |                                                                                                                                           |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]       | 57 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)                                                    |
| EC50 - Crustacea [1]  | > 100 mg/l Test organisms (species): Daphnia magna                                                                                        |
| EC50 72h - Algae [1]  | > 74 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |
| EC50 96h - Algae [1]  | > 74 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |

| d-Limonene (5989-27-5) |                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]        | 720 µg/l Test organisms (species): Pimephales promelas                                                                                     |
| LC50 - Fish [2]        | 702 µg/l Test organisms (species): Pimephales promelas                                                                                     |
| EC50 - Crustacea [1]   | 0.307 mg/l Test organisms (species): Daphnia magna                                                                                         |
| EC50 - Crustacea [2]   | 0.51 mg/l Test organisms (species): Daphnia magna                                                                                          |
| EC50 72h - Algae [1]   | 0.32 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)  |
| EC50 72h - Algae [2]   | 0.214 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |

| Myrcene (123-35-3)   |                                                                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| EC50 - Crustacea [1] | 1.47 mg/l Test organisms (species): Daphnia magna                                                                                          |
| EC50 72h - Algae [1] | 0.342 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2] | 0.31 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)  |

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|                                    |                                                                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>alpha-Pinene (80-56-8)</b>      |                                                                                                                                           |
| LC50 - Fish [1]                    | 0.303 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)                                                       |
| EC50 - Crustacea [1]               | 0.475 mg/l Test organisms (species): Daphnia magna                                                                                        |
| <b>4-Carvomenthenol (562-74-3)</b> |                                                                                                                                           |
| LC50 - Fish [1]                    | 15.6 mg/l Test organisms (species):                                                                                                       |
| EC50 - Other aquatic organisms [1] | 26.6 mg/l Test organisms (species):                                                                                                       |
| <b>p-menth-1-en-8-ol (98-55-5)</b> |                                                                                                                                           |
| LC50 - Fish [1]                    | 70 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)                                                          |
| EC50 - Crustacea [1]               | 73 mg/l Test organisms (species): Daphnia magna                                                                                           |
| EC50 72h - Algae [1]               | ≈ 68 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2]               | ≈ 17 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |
| <b>gamma-Terpinene (99-85-4)</b>   |                                                                                                                                           |
| EC50 - Crustacea [1]               | 10.19 mg/l Test organisms (species): Daphnia magna                                                                                        |
| EC50 72h - Algae [1]               | > 10.82 mg/l Test organisms (species): Scenedesmus capricornutum                                                                          |
| <b>Linalool (78-70-6)</b>          |                                                                                                                                           |
| 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)                                     |
| <b>Geraniol (106-24-1)</b>         |                                                                                                                                           |
| LC50 - Fish [1]                    | ≈ 22 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)                                                        |
| EC50 - Crustacea [1]               | 10.8 mg/l Test organisms (species): Daphnia magna                                                                                         |
| EC50 72h - Algae [1]               | 13.1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)                                      |
| <b>Linalyl acetate (115-95-7)</b>  |                                                                                                                                           |
| LC50 - Fish [1]                    | 11 mg/l Test organisms (species): Cyprinus carpio                                                                                         |
| EC50 - Crustacea [1]               | 59 mg/l Test organisms (species): Daphnia magna                                                                                           |
| EC50 72h - Algae [1]               | 13.1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)                                      |
| <b>Geranyl acetate (105-87-3)</b>  |                                                                                                                                           |
| LC50 - Fish [1]                    | 68.12 mg/l Test organisms (species): Leuciscus idus                                                                                       |
| EC50 - Crustacea [1]               | 14.1 mg/l Test organisms (species): Daphnia magna                                                                                         |
| EC50 72h - Algae [1]               | 3.72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)                                      |
| <b>alpha-Terpinene (99-86-5)</b>   |                                                                                                                                           |
| LC50 - Fish [1]                    | 3150 µg/l Test organisms (species): Pimephales promelas                                                                                   |

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|                                                                            |                                                                                                                                            |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>alpha-Terpinene (99-86-5)</b>                                           |                                                                                                                                            |
| EC50 - Crustacea [1]                                                       | 1.7 mg/l Test organisms (species): Daphnia magna                                                                                           |
| <b>3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers (7212-44-4)</b> |                                                                                                                                            |
| LC50 - Fish [1]                                                            | 1.43 mg/l Test organisms (species): Pimephales promelas                                                                                    |
| EC50 - Crustacea [1]                                                       | 510.3 µg/l Test organisms (species): Daphnia magna                                                                                         |
| EC50 72h - Algae [1]                                                       | 2 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)                                          |
| <b>Terpinolene (586-62-9)</b>                                              |                                                                                                                                            |
| LC50 - Fish [1]                                                            | 0.805 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)                                                        |
| EC50 - Crustacea [1]                                                       | 0.634 mg/l Test organisms (species): Daphnia magna                                                                                         |
| EC50 72h - Algae [1]                                                       | 11.69 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| <b>para-Cymene (99-87-6)</b>                                               |                                                                                                                                            |
| LC50 - Fish [1]                                                            | 48 mg/l Test organisms (species): Cyprinodon variegatus                                                                                    |
| EC50 - Crustacea [1]                                                       | 3.7 mg/l Test organisms (species): Daphnia magna                                                                                           |
| EC50 72h - Algae [1]                                                       | 4.03 mg/l Test organisms (species): Scenedesmus capricornutum                                                                              |
| EC50 72h - Algae [2]                                                       | 2.01 mg/l Test organisms (species): Scenedesmus capricornutum                                                                              |
| <b>Citral (5392-40-5)</b>                                                  |                                                                                                                                            |
| LC50 - Fish [1]                                                            | 6.78 mg/l Test organisms (species): Leuciscus idus                                                                                         |
| EC50 - Crustacea [1]                                                       | 6.8 mg/l Test organisms (species): Daphnia magna                                                                                           |
| EC50 72h - Algae [1]                                                       | 103.8 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)                                      |
| <b>12.2. Persistence and degradability</b>                                 |                                                                                                                                            |
| <b>EO Cardamom seed (85940-32-5)</b>                                       |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>Eucalyptol (470-82-6)</b>                                               |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>d-Limonene (5989-27-5)</b>                                              |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>Myrcene (123-35-3)</b>                                                  |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>alpha-Pinene (80-56-8)</b>                                              |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>4-Carvomenthenol (562-74-3)</b>                                         |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |
| <b>p-menth-1-en-8-ol (98-55-5)</b>                                         |                                                                                                                                            |
| Persistence and degradability                                              | Not rapidly degradable                                                                                                                     |

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|                                                                            |                        |
|----------------------------------------------------------------------------|------------------------|
| <b>gamma-Terpinene (99-85-4)</b>                                           |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Linalool (78-70-6)</b>                                                  |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Geraniol (106-24-1)</b>                                                 |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Linalyl acetate (115-95-7)</b>                                          |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Geranyl acetate (105-87-3)</b>                                          |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>alpha-Terpinene (99-86-5)</b>                                           |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers (7212-44-4)</b> |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>beta-Pinene (127-91-3)</b>                                              |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Terpinolene (586-62-9)</b>                                              |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>para-Cymene (99-87-6)</b>                                               |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>Citral (5392-40-5)</b>                                                  |                        |
| Persistence and degradability                                              | Not rapidly degradable |
| <b>12.3. Bioaccumulative potential</b>                                     |                        |
| <b>Linalyl acetate (115-95-7)</b>                                          |                        |
| Partition coefficient n-octanol/water (Log Pow)                            | 3.9                    |
| <b>Geranyl acetate (105-87-3)</b>                                          |                        |
| Partition coefficient n-octanol/water (Log Pow)                            | 4.04                   |
| <b>Citral (5392-40-5)</b>                                                  |                        |
| BCF - Fish [1]                                                             | 89.72                  |
| Partition coefficient n-octanol/water (Log Kow)                            | 2.76 Temp.: 25 °C      |
| <b>12.4. Mobility in soil</b>                                              |                        |
| <b>Geranyl acetate (105-87-3)</b>                                          |                        |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc)                 | 3.06                   |
| <b>Citral (5392-40-5)</b>                                                  |                        |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc)                 | 2.169                  |

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### 12.5. Results of PBT and vPvB assessment

#### Component

3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers (7212-44-4)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                            |                                                                                               |
|--------------------------------------------|-----------------------------------------------------------------------------------------------|
| Regional waste regulation                  | : Disposal must be done according to official regulations.                                    |
| Waste treatment methods                    | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations            | : Disposal must be done according to official regulations.                                    |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations.                                    |
| Additional information                     | : Flammable vapours may accumulate in the container. Do not re-use empty containers.          |

## SECTION 14: Transport information

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

| ADR                                                                                   | IMDG                                                                                            | IATA                                                                           | ADN                                                                            | RID                                                                            |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>14.1. UN number</b>                                                                |                                                                                                 |                                                                                |                                                                                |                                                                                |
| UN 1197                                                                               | UN 1197                                                                                         | UN 1197                                                                        | UN 1197                                                                        | UN 1197                                                                        |
| <b>14.2. UN proper shipping name</b>                                                  |                                                                                                 |                                                                                |                                                                                |                                                                                |
| EXTRACTS, LIQUID (EO Cardamon seed)                                                   | EXTRACTS, LIQUID (EO Cardamon seed)                                                             | Extracts, liquid (EO Cardamon seed)                                            | EXTRACTS, LIQUID (EO Cardamon seed)                                            | EXTRACTS, LIQUID (EO Cardamon seed)                                            |
| <b>Transport document description</b>                                                 |                                                                                                 |                                                                                |                                                                                |                                                                                |
| UN 1197 EXTRACTS, LIQUID (EO Cardamon seed), 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS | UN 1197 EXTRACTS, LIQUID (EO Cardamon seed), 3, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS | UN 1197 Extracts, liquid (EO Cardamon seed), 3, III, ENVIRONMENTALLY HAZARDOUS | UN 1197 EXTRACTS, LIQUID (EO Cardamon seed), 3, III, ENVIRONMENTALLY HAZARDOUS | UN 1197 EXTRACTS, LIQUID (EO Cardamon seed), 3, III, ENVIRONMENTALLY HAZARDOUS |
| <b>14.3. Transport hazard class(es)</b>                                               |                                                                                                 |                                                                                |                                                                                |                                                                                |
| 3                                                                                     | 3                                                                                               | 3                                                                              | 3                                                                              | 3                                                                              |
|                                                                                       |                                                                                                 |                                                                                |                                                                                |                                                                                |
| <b>14.4. Packing group</b>                                                            |                                                                                                 |                                                                                |                                                                                |                                                                                |
| III                                                                                   | III                                                                                             | III                                                                            | III                                                                            | III                                                                            |
| <b>14.5. Environmental hazards</b>                                                    |                                                                                                 |                                                                                |                                                                                |                                                                                |
| Dangerous for the environment: Yes                                                    | Dangerous for the environment: Yes<br>Marine pollutant: Yes                                     | Dangerous for the environment: Yes                                             | Dangerous for the environment: Yes                                             | Dangerous for the environment: Yes                                             |
| No supplementary information available                                                |                                                                                                 |                                                                                |                                                                                |                                                                                |

# EO Cardamom seed

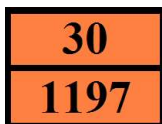
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### 14.6. Special precautions for user

#### Overland transport

|                                                           |                           |
|-----------------------------------------------------------|---------------------------|
| Classification code (ADR)                                 | : F1                      |
| Special provisions (ADR)                                  | : 601                     |
| Limited quantities (ADR)                                  | : 5I                      |
| Excepted quantities (ADR)                                 | : E1                      |
| Packing instructions (ADR)                                | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (ADR)                            | : MP19                    |
| Portable tank and bulk container instructions (ADR)       | : T2                      |
| Portable tank and bulk container special provisions (ADR) | : TP1                     |
| Tank code (ADR)                                           | : LGBF                    |
| Vehicle for tank carriage                                 | : FL                      |
| Transport category (ADR)                                  | : 3                       |
| Special provisions for carriage - Packages (ADR)          | : V12                     |
| Special provisions for carriage - Operation (ADR)         | : S2                      |
| Hazard identification number (Kemler No.)                 | : 30                      |
| Orange plates                                             | :                         |



|                               |       |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : D/E |
|-------------------------------|-------|

#### Transport by sea

|                                    |                                                                                                |
|------------------------------------|------------------------------------------------------------------------------------------------|
| Special provisions (IMDG)          | : 223, 955                                                                                     |
| Limited quantities (IMDG)          | : 5 L                                                                                          |
| Excepted quantities (IMDG)         | : E1                                                                                           |
| Packing instructions (IMDG)        | : P001, LP01                                                                                   |
| IBC packing instructions (IMDG)    | : IBC03                                                                                        |
| Tank instructions (IMDG)           | : T2                                                                                           |
| Tank special provisions (IMDG)     | : TP1                                                                                          |
| EmS-No. (Fire)                     | : F-E                                                                                          |
| EmS-No. (Spillage)                 | : S-D                                                                                          |
| Stowage category (IMDG)            | : A                                                                                            |
| Properties and observations (IMDG) | : Usually consist of alcoholic solutions. Miscibility with water depends upon the composition. |

#### Air transport

|                                              |        |
|----------------------------------------------|--------|
| PCA Excepted quantities (IATA)               | : E1   |
| PCA Limited quantities (IATA)                | : Y344 |
| PCA limited quantity max net quantity (IATA) | : 10L  |
| PCA packing instructions (IATA)              | : 355  |
| PCA max net quantity (IATA)                  | : 60L  |
| CAO packing instructions (IATA)              | : 366  |
| CAO max net quantity (IATA)                  | : 220L |
| Special provisions (IATA)                    | : A3   |
| ERG code (IATA)                              | : 3L   |

#### Inland waterway transport

|                                   |             |
|-----------------------------------|-------------|
| Classification code (ADN)         | : F1        |
| Special provisions (ADN)          | : 601       |
| Limited quantities (ADN)          | : 5 L       |
| Excepted quantities (ADN)         | : E1        |
| Equipment required (ADN)          | : PP, EX, A |
| Ventilation (ADN)                 | : VE01      |
| Number of blue cones/lights (ADN) | : 0         |

#### Rail transport

|                           |       |
|---------------------------|-------|
| Classification code (RID) | : F1  |
| Special provisions (RID)  | : 601 |
| Limited quantities (RID)  | : 5L  |
| Excepted quantities (RID) | : E1  |

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|                                                           |                           |
|-----------------------------------------------------------|---------------------------|
| Packing instructions (RID)                                | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (RID)                            | : MP19                    |
| Portable tank and bulk container instructions (RID)       | : T2                      |
| Portable tank and bulk container special provisions (RID) | : TP1                     |
| Tank codes for RID tanks (RID)                            | : LGBF                    |
| Transport category (RID)                                  | : 3                       |
| Special provisions for carriage – Packages (RID)          | : W12                     |
| Colis express (express parcels) (RID)                     | : CE4                     |
| Hazard identification number (RID)                        | : 30                      |

### 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)                                   | EO Cardamom seed ;<br>Eucalyptol ; d-Limonene ;<br>Myrcene ; alpha-Pinene ;<br>gamma-Terpinene ;<br>alpha-Terpinene ; beta-Pinene ; para-Cymene                                                                                                                                                                                         | 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)                                   | EO Cardamom seed ;<br>Eucalyptol ; d-Limonene ;<br>Myrcene ; alpha-Pinene ;<br>4-Carvomenthenol ; p-menth-1-en-8-ol ; gamma-Terpinene ; Linalool ;<br>Geraniol ; Linalyl acetate ;<br>Geranyl acetate ; alpha-Terpinene ; 3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers ;<br>beta-Pinene ; Terpinolene ; para-Cymene ; Citral | 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)                                   | EO Cardamom seed ; d-Limonene ; Myrcene ;<br>alpha-Pinene ; 4-Carvomenthenol ;<br>gamma-Terpinene ;<br>Geranyl acetate ; alpha-Terpinene ; 3,7,11-trimethyldodeca-1,6,10-trien-3-ol, mixed isomers ;<br>Terpinolene ; para-Cymene                                                                                                       | 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)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

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

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### 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)

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 (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)

### 15.1.2. National regulations

#### Netherlands

- SZW-lijst van kankerverwekkende stoffen : The substance is not listed
- SZW-lijst van mutagene stoffen : The substance is not 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                                                                              |

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| Abbreviations and acronyms: |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| 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                                                          |

| Full text of H- and EUH-statements:    |                                                                   |
|----------------------------------------|-------------------------------------------------------------------|
| Acute Tox. 3<br>(Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 3                  |
| 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                                     |
| Eye Dam. 1                             | Serious eye damage/eye irritation, Category 1                     |
| Eye Irrit. 2                           | Serious eye damage/eye irritation, Category 2                     |
| Flam. Liq. 3                           | Flammable liquids, Category 3                                     |
| Repr. 2                                | Reproductive toxicity, Category 2                                 |
| Skin Irrit. 2                          | Skin corrosion/irritation, Category 2                             |
| Skin Sens. 1                           | Skin sensitisation, Category 1                                    |
| Skin Sens. 1B                          | Skin sensitisation, category 1B                                   |
| H226                                   | Flammable liquid and vapour.                                      |
| H302                                   | Harmful if swallowed.                                             |
| H304                                   | May be fatal if swallowed and enters airways.                     |
| H315                                   | Causes skin irritation.                                           |

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| Full text of H- and EUH-statements: |                                                       |
|-------------------------------------|-------------------------------------------------------|
| H317                                | May cause an allergic skin reaction.                  |
| H318                                | Causes serious eye damage.                            |
| H319                                | Causes serious eye irritation.                        |
| H331                                | Toxic if inhaled.                                     |
| H361                                | Suspected of damaging fertility or the unborn child.  |
| H400                                | Very toxic to aquatic life.                           |
| H410                                | Very toxic to aquatic life with long lasting effects. |
| H411                                | Toxic to aquatic life with long lasting effects.      |
| H412                                | Harmful to aquatic life with long lasting effects.    |

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.