

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

### **1.1 Product identifier**

RUCK "Meadow" Lime & Verbena Room Fragrance incl. 8 Diffuser Sticks

UFI: 4AYA-G0V6-T00T-YDMP

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

#### **Use of the substance/mixture**

Odour-Sequesterant, Fragrance

### **1.3 Details of the supplier of the safety data sheet**

HELLMUT RUCK GmbH

Daimlerstr. 23

D-75305 Neuenbürg

fon +49 (0)7082. 944 20

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### **1.4 Emergency telephone number**

VIZ Universitätsklinikum Freiburg: Phone (24 h) +49 (0)761 19240

## 2 SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GB CLP Regulation

Flam. Liq. 2; H225

Skin Sens. 1; H317

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

### 2.2 Label elements

#### GB CLP Regulation

##### Hazard components for labelling

(R)-p-mentha-1,8-diene; d-limonene

linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool

geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol

CITRONELLOL

citral

CITRONELLAL

PINENE

EUCALYPTOL

LINALYL ACETATE

TERPINOLENE

MYRCENE

BETA-CARYOPHYLLENE

4-TERPINEOL

isoeugenol

**Signal word:** Danger

## Pictograms:



## Hazard statements

|      |                                                  |
|------|--------------------------------------------------|
| H225 | Highly flammable liquid and vapour.              |
| H317 | May cause an allergic skin reaction.             |
| H411 | Toxic to aquatic life with long lasting effects. |

## Precautionary statements

|                |                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------|
| P101           | If medical advice is needed, have product container or label at hand.                                  |
| P102           | Keep out of reach of children.                                                                         |
| P103           | Read carefully and follow all instructions.                                                            |
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.<br>No smoking.      |
| P233           | Keep container tightly closed.                                                                         |
| P240           | Ground and bond container and receiving equipment.                                                     |
| P241           | Use explosion-proof electrical/ventilating/lighting equipment.                                         |
| P242           | Use non-sparking tools.                                                                                |
| P243           | Take action to prevent static discharges.                                                              |
| P261           | Avoid breathing dust/fume/gas/mist/vapours/spray.                                                      |
| P272           | Contaminated work clothing should not be allowed out of the workplace.                                 |
| P273           | Avoid release to the environment.                                                                      |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.          |
| 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. |
| P333+P313      | If skin irritation or rash occurs: Get medical advice/attention.                                       |
| P362+P364      | Take off contaminated clothing and wash it before reuse.                                               |

| Document number/Designation/Revision                                                 | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|--------------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance<br>Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |



|           |                                                                                          |
|-----------|------------------------------------------------------------------------------------------|
| P370+P378 | In case of fire: Use sand, extinguishing powder or alcohol-resistant foam to extinguish. |
| P391      | Collect spillage.                                                                        |
| P403+P235 | Store in a well-ventilated place. Keep cool.                                             |
| P501      | Dispose of contents/container to an appropriate recycling or disposal facility.          |

### 2.3 Other hazards

Irritating to eyes, respiratory system and skin.

May cause sensitization by skin contact.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday.

Keep out of the reach of children.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood.

## 3 SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Chemical characterization

Odour-Sequesterant: Alcoholic solution & perfumes

May cause an allergic skin reaction.

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

**Hazardous components**

| CAS No    | Chemical name                                                                                                                                |              |                  | Quantity  |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|-----------|
|           | EC No                                                                                                                                        | Index No     | REACH No         |           |
|           | Classification (GB CLP Regulation)                                                                                                           |              |                  |           |
| 5989-27-5 | (R)-p-mentha-1,8-diene; d-limonene                                                                                                           |              |                  | 1 - < 5 % |
|           | 227-813-5                                                                                                                                    | 601-029-00-7 |                  |           |
|           | Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H400 H410                                      |              |                  |           |
| 78-70-6   | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool                                                                                        |              |                  | 1 - < 5 % |
|           | 201-134-4                                                                                                                                    | 603-235-00-2 |                  |           |
|           | Skin Sens. 1B; H317                                                                                                                          |              |                  |           |
| 106-24-1  | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol                                                                                                |              |                  | 1 - < 5 % |
|           | 203-377-1                                                                                                                                    | 603-241-00-5 |                  |           |
|           | Skin Sens. 1; H317                                                                                                                           |              |                  |           |
| 106-22-9  | CITRONELLOL                                                                                                                                  |              |                  | 1 - < 5 % |
|           | 203-375-0                                                                                                                                    |              | 01-2119453995-23 |           |
|           | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B; H315 H319 H317                                                                                   |              |                  |           |
| 5392-40-5 | citral                                                                                                                                       |              |                  | 1 - < 5 % |
|           | 226-394-6                                                                                                                                    | 605-019-00-3 |                  |           |
|           | Skin Irrit. 2, Skin Sens. 1; H315 H317                                                                                                       |              |                  |           |
| 106-23-0  | CITRONELLAL                                                                                                                                  |              |                  | < 1 %     |
|           | 203-376-6                                                                                                                                    |              | 01-2119474900-37 |           |
|           | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B, Aquatic Chronic 3; H315 H319 H317 H412                                                           |              |                  |           |
| 80-56-8   | PINENE                                                                                                                                       |              |                  | < 1 %     |
|           | 201-291-9                                                                                                                                    |              | 01-2119519223-49 |           |
|           | Flam. Liq. 3, Acute Tox. 4, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H302 H315 H317 H304 H400 H410 |              |                  |           |
| 470-82-6  | EUCALYPTOL                                                                                                                                   |              |                  | < 1 %     |
|           | 207-431-5                                                                                                                                    |              | 01-2119967772-24 |           |
|           | Flam. Liq. 3, Skin Sens. 1B; H226 H317                                                                                                       |              |                  |           |
| 99-85-4   | GAMMA-TERPINENE                                                                                                                              |              |                  | < 1 %     |
|           | 202-794-6                                                                                                                                    |              | 01-2120780478-40 |           |
|           | Flam. Liq. 3, Repr. 2, Aquatic Chronic 2; H226 H361 H411                                                                                     |              |                  |           |
| 115-95-7  | LINALYL ACETATE                                                                                                                              |              |                  | < 1 %     |
|           | 204-116-4                                                                                                                                    |              | 01-2119454789-19 |           |
|           | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B; H315 H319 H317                                                                                   |              |                  |           |
| 586-62-9  | TERPINOLENE                                                                                                                                  |              |                  | < 1 %     |
|           | 209-578-0                                                                                                                                    |              | 01-2119982325-32 |           |
|           | Skin Sens. 1B, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H317 H304 H400 H410                                                          |              |                  |           |
| 123-35-3  | MYRCENE                                                                                                                                      |              |                  | < 1 %     |
|           | 204-622-5                                                                                                                                    |              | 01-2119514321-56 |           |
|           | Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Chronic 2; H226 H315 H319 H317 H304 H411                       |              |                  |           |
| 87-44-5   | BETA-CARYOPHYLLENE                                                                                                                           |              |                  | < 1 %     |
|           | 201-746-1                                                                                                                                    |              | 01-2120745237-53 |           |
|           | Skin Sens. 1B, Asp. Tox. 1, Aquatic Chronic 4; H317 H304 H413                                                                                |              |                  |           |

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|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

| CAS No   | Chemical name                                                                                | Quantity         |
|----------|----------------------------------------------------------------------------------------------|------------------|
| 562-74-3 | 4-TERPINEOL                                                                                  | < 1 %            |
|          | 209-235-5                                                                                    | 01-2120748638-40 |
|          | Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H302 H315 H319 H317 H336 |                  |
| 97-54-1  | isoeugenol                                                                                   | < 0.1 %          |
|          | 202-590-7                                                                                    | 604-094-00-X     |
|          | Skin Sens. 1A; H317                                                                          |                  |

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

### Specific Conc. Limits, M-factors and ATE

| CAS No    | EC No     | Chemical name                                             | Quantity  |
|-----------|-----------|-----------------------------------------------------------|-----------|
|           |           | Specific Conc. Limits, M-factors and ATE                  |           |
| 5989-27-5 | 227-813-5 | (R)-p-mentha-1,8-diene; d-limonene                        | 1 - < 5 % |
|           |           | dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 2000 mg/kg    |           |
| 78-70-6   | 201-134-4 | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool     | 1 - < 5 % |
|           |           | dermal: LD50 = 5610 mg/kg; oral: LD50 = 2790 mg/kg        |           |
| 106-24-1  | 203-377-1 | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol             | 1 - < 5 % |
|           |           | dermal: LD50 = 5000 mg/kg; oral: LD50 = 3600 mg/kg        |           |
| 106-22-9  | 203-375-0 | CITRONELLOL                                               | 1 - < 5 % |
|           |           | dermal: LD50 = 2650 mg/kg; oral: LD50 = 3450 mg/kg        |           |
| 5392-40-5 | 226-394-6 | citral                                                    | 1 - < 5 % |
|           |           | dermal: LD50 = >2000 mg/kg; oral: LD50 = 6800 mg/kg       |           |
| 106-23-0  | 203-376-6 | CITRONELLAL                                               | < 1 %     |
|           |           | dermal: LD50 = >2500 mg/kg; oral: LD50 = 2150 mg/kg       |           |
| 80-56-8   | 201-291-9 | PINENE                                                    | < 1 %     |
|           |           | dermal: LD50 = >2000 mg/kg; oral: LD50 = 500 mg/kg        |           |
| 470-82-6  | 207-431-5 | EUCALYPTOL                                                | < 1 %     |
|           |           | dermal: LD50 = >2000 mg/kg; oral: LD50 = 4300 mg/kg       |           |
| 99-85-4   | 202-794-6 | GAMMA-TERPINENE                                           | < 1 %     |
|           |           | dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg      |           |
| 115-95-7  | 204-116-4 | LINALYL ACETATE                                           | < 1 %     |
|           |           | dermal: LD50 = >5000 mg/kg; oral: LD50 = >9000 mg/kg      |           |
| 586-62-9  | 209-578-0 | TERPINOLENE                                               | < 1 %     |
|           |           | dermal: LD50 = 4300 mg/kg; oral: LD50 = 3740 mg/kg        |           |
| 123-35-3  | 204-622-5 | MYRCENE                                                   | < 1 %     |
|           |           | dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg      |           |
| 87-44-5   | 201-746-1 | BETA-CARYOPHYLLENE                                        | < 1 %     |
|           |           | oral: LD50 = >5000 mg/kg                                  |           |
| 562-74-3  | 209-235-5 | 4-TERPINEOL                                               | < 1 %     |
|           |           | dermal: LD50 = >2500=<5000 mg/kg; oral: LD50 = 1300 mg/kg |           |
| 97-54-1   | 202-590-7 | isoeugenol                                                | < 0.1 %   |
|           |           | Skin Sens. 1A; H317: >= 0,01 - 100                        |           |

### Further Information

May cause sensitization of susceptible persons.

Avoid contact with skin, eyes and clothing.

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

## 4 SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Move out of dangerous area. Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.

#### After inhalation

Move to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice.

#### After contact with skin

In case of contact, immediately flush skin with soap and plenty of water. If skin irritation occurs, seek medical advice/attention.

#### After contact with eyes

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

#### After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If unconscious place in recovery position and seek medical advice.

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

Vapours may cause irritation to the eyes, respiratory system and the skin. May cause sensitization by skin contact. Vapours may cause drowsiness and dizziness. Symptoms: Exposure may result in reddening, tears and itching of the eyes and soreness in the nose and throat, together with coughing. Difficulty in breathing. May cause headache and dizziness. Unconsciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

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

Treat symptomatically.

## 5 SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

### 5.2 Special hazards arising from the substance or mixture

Vapours are heavier than air and may spread along floors. Vapors may spread long distances and ignite.

Vapours may form explosive mixtures with air. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from sources of ignition – No smoking. Use water spray to cool unopened containers. Container may rupture on heating.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use only explosion-proof equipment.

#### Additional information

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

## 6 SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### General advice

Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes. Protective suit. Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system.

Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

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

#### Other information

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Ensure adequate ventilation. Use explosion-proof equipment.

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

## 7 SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Take notice of labels and material safety data sheets for the working chemicals.

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation.

#### Advice on protection against fire and explosion

Keep away from heat and sources of ignition. Do not smoke. Take measures to prevent the build up of electrostatic charge.

Use only explosion-proof equipment. Vapours may form explosive mixtures with air.

#### Advice on general occupational hygiene

Ensure adequate ventilation, especially in confined areas. Avoid breathing vapors, mist or gas. When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday.

#### Further information on handling

Refer also to instructions for use.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

Storage must be in accordance with the BetrSichV (Germany).

#### Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Materials to avoid: Oxidizing and spontaneously flammable products, Flammable materials, Organic peroxides, Oxidizing agents

## 8 SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Exposure limits (EH40)

| CAS No  | Substance | ppm  | mg/m <sup>3</sup> | fibres/ml | Category  | Origin |
|---------|-----------|------|-------------------|-----------|-----------|--------|
| 64-17-5 | Ethanol   | 1000 | 1920              |           | TWA (8 h) | WEL    |

#### DNEL/DMEL values

| CAS No   | Substance              | DNEL type                | Exposure route | Effect   | Value                   |
|----------|------------------------|--------------------------|----------------|----------|-------------------------|
| 64-17-5  | ethanol; ethyl alcohol | Worker DNEL, long-term   | inhalation     | systemic | 950 mg/m <sup>3</sup>   |
|          |                        | Worker DNEL, acute       | inhalation     | local    | 1900 mg/m <sup>3</sup>  |
|          |                        | Worker DNEL, long-term   | dermal         | systemic | 343 mg/kg bw/day        |
|          |                        | Consumer DNEL, long-term | inhalation     | systemic | 114 mg/m <sup>3</sup>   |
|          |                        | Consumer DNEL, acute     | inhalation     | local    | 950 mg/m <sup>3</sup>   |
|          |                        | Consumer DNEL, long-term | dermal         | systemic | 206 mg/kg bw/day        |
|          |                        | Consumer DNEL, long-term | oral           | systemic | 87 mg/kg bw/day         |
| 106-22-9 | CITRONELLOL            | Worker DNEL, long-term   | inhalation     | systemic | 161,6 mg/m <sup>3</sup> |
|          |                        | Worker DNEL, long-term   | dermal         | systemic | 327,4 mg/kg bw/day      |
|          |                        | Consumer DNEL, long-term | inhalation     | systemic | 47,8 mg/m <sup>3</sup>  |
|          |                        | Worker DNEL, long-term   | inhalation     | local    | 10 mg/m <sup>3</sup>    |
|          |                        | Consumer DNEL, long-term | inhalation     | local    | 10 mg/m <sup>3</sup>    |
|          |                        | Consumer DNEL, long-term | dermal         | systemic | 196,4 mg/kg bw/day      |
|          |                        | Consumer DNEL, long-term | oral           | systemic | 13,8 mg/kg bw/day       |
| 106-23-0 | CITRONELLAL            | Worker DNEL, long-term   | inhalation     | systemic | 9 mg/m <sup>3</sup>     |
|          |                        | Worker DNEL, long-term   | dermal         | systemic | 1,7 mg/kg bw/day        |
|          |                        | Worker DNEL, long-term   | dermal         | local    | 0,14 mg/cm <sup>2</sup> |
|          |                        | Consumer DNEL, long-term | inhalation     | systemic | 2,7 mg/m <sup>3</sup>   |
|          |                        | Consumer DNEL, long-term | dermal         | systemic | 1 mg/kg bw/day          |
|          |                        | Consumer DNEL, long-term | dermal         | local    | 0,14 mg/cm <sup>2</sup> |
|          |                        | Consumer DNEL, long-term | oral           | systemic | 0,6 mg/kg bw/day        |
| 80-56-8  | PINENE                 | Worker DNEL, long-term   | inhalation     | systemic | 3,8 mg/m <sup>3</sup>   |
|          |                        | Worker DNEL, long-term   | dermal         | systemic | 0,54 mg/kg bw/day       |
|          |                        | Consumer DNEL, long-term | inhalation     | systemic | 0,67 mg/m <sup>3</sup>  |
|          |                        | Consumer DNEL, long-term | dermal         | systemic | 0,19 mg/kg bw/day       |

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

| CAS No                   | Substance       |          |                         |
|--------------------------|-----------------|----------|-------------------------|
| 470-82-6                 | EUCALYPTOL      |          |                         |
| Worker DNEL, long-term   | inhalation      | systemic | 7,05 mg/m <sup>3</sup>  |
| Worker DNEL, long-term   | dermal          | systemic | 2 mg/kg bw/day          |
| Consumer DNEL, long-term | inhalation      | systemic | 1,74 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term | dermal          | systemic | 1 mg/kg bw/day          |
| Consumer DNEL, long-term | oral            | systemic | 600 mg/kg bw/day        |
| 99-85-4                  | GAMMA-TERPINENE |          |                         |
| Worker DNEL, long-term   | inhalation      | systemic | 2,939 mg/m <sup>3</sup> |
| Worker DNEL, long-term   | dermal          | systemic | 0,833 mg/kg bw/day      |
| Consumer DNEL, long-term | inhalation      | systemic | 0,725 mg/m <sup>3</sup> |
| Consumer DNEL, long-term | dermal          | systemic | 0,417 mg/kg bw/day      |
| Consumer DNEL, long-term | oral            | systemic | 0,417 mg/kg bw/day      |
| 115-95-7                 | LINALYL ACETATE |          |                         |
| Worker DNEL, long-term   | inhalation      | systemic | 2,75 mg/m <sup>3</sup>  |
| Worker DNEL, long-term   | dermal          | systemic | 2,5 mg/kg bw/day        |
| Consumer DNEL, long-term | inhalation      | systemic | 0,68 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term | dermal          | systemic | 1,25 mg/kg bw/day       |
| Consumer DNEL, long-term | oral            | systemic | 0,2 mg/kg bw/day        |
| 586-62-9                 | TERPINOLENE     |          |                         |
| Worker DNEL, long-term   | inhalation      | systemic | 3,6 mg/m <sup>3</sup>   |
| Worker DNEL, long-term   | dermal          | systemic | 0,52 mg/kg bw/day       |
| Consumer DNEL, long-term | inhalation      | systemic | 0,9 mg/m <sup>3</sup>   |
| Consumer DNEL, long-term | dermal          | systemic | 0,26 mg/kg bw/day       |
| Consumer DNEL, long-term | oral            | systemic | 0,26 mg/kg bw/day       |

**PNEC values**

| CAS No                                           | Substance              |                  |
|--------------------------------------------------|------------------------|------------------|
| Environmental compartment                        |                        | Value            |
| 64-17-5                                          | ethanol; ethyl alcohol |                  |
| Freshwater                                       |                        | 0,96 mg/l        |
| Freshwater (intermittent releases)               |                        | 2,75 mg/l        |
| Marine water                                     |                        | 0,79 mg/l        |
| Freshwater sediment                              |                        | 3,6 mg/kg        |
| Marine sediment                                  |                        | 2,9 mg/kg        |
| Secondary poisoning                              |                        | 380-720 mg/kg    |
| Soil                                             |                        | 0,63 mg/kg       |
| 106-22-9                                         | CITRONELLOL            |                  |
| Freshwater                                       |                        | 0,002 mg/l       |
| Freshwater sediment                              |                        | 0,026 mg/kg      |
| Marine sediment                                  |                        | 0,03 mg/kg       |
| Micro-organisms in sewage treatment plants (STP) |                        | 580 mg/l         |
| Soil                                             |                        | 0,004 mg/kg      |
| 106-23-0                                         | CITRONELLAL            |                  |
| Freshwater                                       |                        | 0,00868 mg/l     |
| Freshwater (intermittent releases)               |                        | 0,0868 mg/l      |
| Marine water                                     |                        | 0,00087 mg/l     |
| Freshwater sediment                              |                        | 0,159 mg/kg      |
| Marine sediment                                  |                        | 0,0159 mg/kg     |
| Micro-organisms in sewage treatment plants (STP) |                        | 4 mg/l           |
| Soil                                             |                        | 0,0267 mg/kg     |
| 80-56-8                                          | PINENE                 |                  |
| Secondary poisoning                              |                        | 8,76 mg/kg       |
| Micro-organisms in sewage treatment plants (STP) |                        | 0,2 mg/l         |
| 470-82-6                                         | EUCALYPTOL             |                  |
| Freshwater sediment                              |                        | 1,425 mg/kg      |
| Marine sediment                                  |                        | 0,142 mg/kg      |
| Secondary poisoning                              |                        | 40 mg/kg         |
| Micro-organisms in sewage treatment plants (STP) |                        | 10 mg/l          |
| Soil                                             |                        | 0,25 mg/kg       |
| 99-85-4                                          | GAMMA-TERPINENE        |                  |
| Freshwater                                       |                        | 2,792 mg/l       |
| Marine water                                     |                        | 0,002792 mg/l    |
| Freshwater sediment                              |                        | 0,4090057 mg/kg  |
| Marine sediment                                  |                        | 0,04090057 mg/kg |
| Micro-organisms in sewage treatment plants (STP) |                        | 10 mg/l          |

| CAS No                                           | Substance       |             |
|--------------------------------------------------|-----------------|-------------|
| 115-95-7                                         | LINALYL ACETATE |             |
| Freshwater                                       |                 | 0,011 mg/l  |
| Freshwater (intermittent releases)               |                 | 0,11 mg/l   |
| Marine water                                     |                 | 0,001 mg/l  |
| Freshwater sediment                              |                 | 0,609 mg/kg |
| Marine sediment                                  |                 | 0,061 mg/kg |
| Micro-organisms in sewage treatment plants (STP) |                 | 1 mg/l      |
| Soil                                             |                 | 0,115 mg/kg |
| 586-62-9                                         | TERPINOLENE     |             |
| Secondary poisoning                              |                 | 10,31 mg/kg |
| Micro-organisms in sewage treatment plants (STP) |                 | 0,2 mg/l    |

## Additional advice on limit values

No data is available on the product itself.

## 8.2 Exposure controls



## Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. To avoid risks to man and the environment, comply with the instructions for use.

## Individual protection measures, such as personal protective equipment

### Eye/face protection

Safety glasses with side-shields

### Hand protection

Preventive skin protection: Solvent-resistant gloves (butyl-rubber). Use protective skin cream before handling the product.

### Skin protection

Protective suit.

| Document number/Designation/Revision                                              | Created/modified/Date/Signature | Released/Approved/Date/Signature |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------|
| Safety Data Sheet_6100901_RUCK Room Fragrance Meadow Lime & Verbena_REV01_EN.docx | 27.06.2023 ThW                  | 24.07.2023 EF                    |

**Respiratory protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Environmental exposure controls**

The product should not be allowed to enter drains, water courses or the soil. Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

**9 SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|                                                           |                         |
|-----------------------------------------------------------|-------------------------|
| Physical state:                                           | liquid                  |
| Colour:                                                   | colourless-light yellow |
| Odour:                                                    | characteristic          |
| Boiling point or initial boiling point and boiling range: | 78,29 °C                |
| Lower explosion limits:                                   | 3,5 vol. %              |
| Upper explosion limits:                                   | 15 vol. %               |
| Flash point:                                              | 13 °C                   |
| Auto-ignition temperature:                                | 245 °C                  |
| Vapour pressure (at 20 °C):                               | 57,26 hPa               |
| Vapour pressure (at 50 °C):                               | 293 hPa                 |
| Density:                                                  | 0,81 g/cm <sup>3</sup>  |

## **10 SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

No data is available on the product itself.

### **10.2 Chemical stability**

Keep containers tightly closed in a cool, well-ventilated place.

### **10.3 Possibility of hazardous reactions**

Vapours may form explosive mixtures with air.

### **10.4 Conditions to avoid**

Keep away from heat and sources of ignition. Do not smoke.

Keep away from direct sunlight. Do not expose to temperatures above 40 °C.

Take measures to prevent the build up of electrostatic charge.

### **10.5 Incompatible materials**

Oxidizing agents, Acids, Bases, Amines, Nitric acid.

### **10.6 Hazardous decomposition products**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Acids, Hydrocarbons, Hydrogen cyanide (hydrocyanic acid). Oxidizing and spontaneously flammable products.

## 11 SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in GB CLP Regulation

#### Toxicokinetics, metabolism and distribution

No data is available on the product itself.

#### Acute toxicity

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

#### ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l.

| CAS No    | Chemical name                                         |      |              |               |        |                         |
|-----------|-------------------------------------------------------|------|--------------|---------------|--------|-------------------------|
|           | Exposure route                                        | Dose |              | Species       | Source | Method                  |
| 5989-27-5 | (R)-p-mentha-1,8-diene; d-limonene                    |      |              |               |        |                         |
|           | oral                                                  | LD50 | > 2000 mg/kg | Rat           |        | OECD 423                |
|           | dermal                                                | LD50 | > 5000 mg/kg | Rabbit        |        |                         |
| 78-70-6   | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool |      |              |               |        |                         |
|           | oral                                                  | LD50 | 2790 mg/kg   | Rat           |        | OECD Test Guideline 401 |
|           | dermal                                                | LD50 | 5610 mg/kg   | Albino rabbit |        | OECD Test Guideline 402 |
| 106-24-1  | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol         |      |              |               |        |                         |
|           | oral                                                  | LD50 | 3600 mg/kg   | Rat           |        |                         |
|           | dermal                                                | LD50 | 5000 mg/kg   | Rabbit        |        |                         |
| 106-22-9  | CITRONELLOL                                           |      |              |               |        |                         |
|           | oral                                                  | LD50 | 3450 mg/kg   | Rat           |        |                         |
|           | dermal                                                | LD50 | 2650 mg/kg   | Rabbit        |        |                         |
| 5392-40-5 | citral                                                |      |              |               |        |                         |
|           | oral                                                  | LD50 | 6800 mg/kg   | rat           |        |                         |
|           | dermal                                                | LD50 | >2000 mg/kg  | rat           |        |                         |
| 106-23-0  | CITRONELLAL                                           |      |              |               |        |                         |
|           | oral                                                  | LD50 | 2150 mg/kg   | Rat           |        | OECD 401                |
|           | dermal                                                | LD50 | >2500 mg/kg  | Rabbit        |        |                         |

| CAS No   | Chemical name      |      |                   |        |  |                         |
|----------|--------------------|------|-------------------|--------|--|-------------------------|
| 80-56-8  | PINENE             |      |                   |        |  |                         |
|          | oral               | LD50 | 500 mg/kg         | Rat    |  | OECD 423                |
|          | dermal             | LD50 | >2000 mg/kg       | Rat    |  | OECD Test Guideline 402 |
| 470-82-6 | EUCALYPTOL         |      |                   |        |  |                         |
|          | oral               | LD50 | 4300 mg/kg        | Rat    |  |                         |
|          | dermal             | LD50 | >2000 mg/kg       | Rat    |  |                         |
| 99-85-4  | GAMMA-TERPINENE    |      |                   |        |  |                         |
|          | oral               | LD50 | >2000 mg/kg       | Rat    |  | OECD 423                |
|          | dermal             | LD50 | >2000 mg/kg       | Rat    |  | OECD Test Guideline 402 |
| 115-95-7 | LINALYL ACETATE    |      |                   |        |  |                         |
|          | oral               | LD50 | >9000 mg/kg       | Rat    |  |                         |
|          | dermal             | LD50 | >5000 mg/kg       | Rabbit |  |                         |
| 586-62-9 | TERPINOLENE        |      |                   |        |  |                         |
|          | oral               | LD50 | 3740 mg/kg        | Rat    |  | OECD Test Guideline 401 |
|          | dermal             | LD50 | 4300 mg/kg        | Rabbit |  | OECD Test Guideline 402 |
| 123-35-3 | MYRCENE            |      |                   |        |  |                         |
|          | oral               | LD50 | >5000 mg/kg       | Rat    |  | OECD Test Guideline 401 |
|          | dermal             | LD50 | >5000 mg/kg       | Rat    |  | OECD Test Guideline 402 |
| 87-44-5  | BETA-CARYOPHYLLENE |      |                   |        |  |                         |
|          | oral               | LD50 | >5000 mg/kg       | Mouse  |  |                         |
| 562-74-3 | 4-TERPINEOL        |      |                   |        |  |                         |
|          | oral               | LD50 | 1300 mg/kg        | Rat    |  | OECD 401                |
|          | dermal             | LD50 | >2500=<5000 mg/kg | Rabbit |  | OECD 402                |

**Irritation and corrosivity**

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

**Sensitising effects**

May cause an allergic skin reaction. ((R)-p-mentha-1,8-diene; d-limonene; linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool; geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol; CITRONELLOL; citral; CITRONELLAL; PINENE; EUCALYPTOL; LINALYL ACETATE; TERPINOLENE; MYRCENE; BETA-CARYOPHYLLENE; 4-TERPINEOL; isoeugenol)

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood.

**Aspiration hazard**

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

**Specific effects in experiment on an animal**

No data is available on the product itself.

**11.2 Information on other hazards****Other information**

Health injuries are not known or expected under normal use.

**Further information**

Harmful if swallowed. Effects due to ingestion may include: Nausea, narcosis, Weakness, Dizziness, Unconsciousness. If inhaled: Irritation of mucous membranes, Dizziness. Repeated exposure may cause skin dryness or cracking.

## 12 SECTION 12: Ecological information

### 12.1 Toxicity

No data is available on the product itself.

| CAS No    | Chemical name                                         |                  |           |                                     |        |                         |
|-----------|-------------------------------------------------------|------------------|-----------|-------------------------------------|--------|-------------------------|
|           | Aquatic toxicity                                      | Dose             | [h]   [d] | Species                             | Source | Method                  |
| 5989-27-5 | (R)-p-mentha-1,8-diene; d-limonene                    |                  |           |                                     |        |                         |
|           | Acute fish toxicity                                   | LC50 0,72 mg/l   | 96 h      | Pimephales promelas                 |        | OECD 203                |
|           | Acute algae toxicity                                  | ErC50 0,32 mg/l  | 72 h      | Pseudokirchneriella subcapitata     |        | OECD 201                |
|           | Acute crustacea toxicity                              | EC50 0,307 mg/l  | 48 h      | Daphnia magna                       |        | OECD 202                |
|           | Fish toxicity                                         | NOEC 0,37 mg/l   | 8 d       | Pimephales promelas                 |        | OECD 212                |
|           | Algae toxicity                                        | NOEC 0,174 mg/l  | 3 d       | Pseudokirchneriella subcapitata     |        | OECD 201                |
|           | Crustacea toxicity                                    | NOEC 0,153 mg/l  | 21 d      | Daphnia magna                       |        | OECD 211                |
|           | Acute bacteria toxicity                               | (EC50 209 mg/l)  | 3 h       | Activated sludge                    |        | OECD 209                |
| 78-70-6   | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dL-linalool |                  |           |                                     |        |                         |
|           | Acute fish toxicity                                   | LC50 27,8 mg/l   | 96 h      | Oncorhynchus mykiss (Rainbow trout) |        | OECD Test Guideline 203 |
|           | Acute algae toxicity                                  | ErC50 156,7 mg/l | 96 h      | Desmodesmus subspicatus             |        | DIN 38412 / part 9      |
|           | Acute crustacea toxicity                              | EC50 59 mg/l     | 48 h      | Daphnia magna (Big water flea)      |        | OECD Test Guideline 202 |
|           | Algae toxicity                                        | NOEC 54,3 mg/l   |           |                                     |        |                         |
|           | Acute bacteria toxicity                               | (EC50 >100 mg/l) | 0,5 h     | Activated sludge                    |        | OECD 209                |
| 106-24-1  | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol         |                  |           |                                     |        |                         |
|           | Acute fish toxicity                                   | LC50 22 mg/l     | 96 h      | Danio rerio (zebrafish)             |        | OECD 203                |
|           | Acute algae toxicity                                  | ErC50 13,1 mg/l  | 72 h      | Desmodesmus subspicatus             |        | OECD 201                |
|           | Acute crustacea toxicity                              | EC50 10,8 mg/l   | 48 h      | Daphnia magna (Big water flea)      |        | OECD 202                |
|           | Fish toxicity                                         | NOEC 10 mg/l     | 4 d       | Danio rerio (zebrafish)             |        | OECD 203                |
|           | Algae toxicity                                        | NOEC 1 mg/l      | 3 d       | Desmodesmus subspicatus             |        | OECD 201                |
|           | Acute bacteria toxicity                               | (EC50 70 mg/l)   | 0,5 h     | Activated sludge                    |        | OECD 209                |
| 106-22-9  | CITRONELLOL                                           |                  |           |                                     |        |                         |
|           | Acute fish toxicity                                   | LC50 14,66 mg/l  | 96 h      | Leuciscus idus (golden orfe)        |        |                         |
|           | Acute algae toxicity                                  | ErC50 2,4 mg/l   | 72 h      |                                     |        |                         |
|           | Acute crustacea toxicity                              | EC50 17,48 mg/l  | 48 h      | Daphnia magna (Big water flea)      |        |                         |
|           | Fish toxicity                                         | NOEC 4,6 mg/l    | 4 d       | Leuciscus idus (golden orfe)        |        |                         |

|           |                          |             |            |       |                                               |  |                         |
|-----------|--------------------------|-------------|------------|-------|-----------------------------------------------|--|-------------------------|
|           | Crustacea toxicity       | NOEC        | 3,1 mg/l   | 2 d   | Daphnia magna (Big water flea)                |  |                         |
|           | Acute bacteria toxicity  | (EC50 mg/l) | >10000     | 0,5 h | Pseudomonas putida                            |  |                         |
| 5392-40-5 | citral                   |             |            |       |                                               |  |                         |
|           | Acute fish toxicity      | LC50        | 6,78 mg/l  | 96 h  | Leuciscus idus (golden orfe)                  |  | DIN 38412               |
|           | Acute algae toxicity     | ErC50 mg/l  | 103,84     | 72 h  | Desmodesmus subspicatus                       |  | DIN 38412 / part 9      |
|           | Acute crustacea toxicity | EC50        | 6,8 mg/l   | 48 h  | Daphnia magna (Water flea)                    |  |                         |
|           | Fish toxicity            | NOEC        | 4,6 mg/l   | 4 d   | Leuciscus idus (golden orfe)                  |  | DIN 38412               |
|           | Acute bacteria toxicity  | (EC50       | 160 mg/l)  | 0,5 h | Respiration inhibition of activated sludge    |  | OECD 209                |
| 106-23-0  | CITRONELLAL              |             |            |       |                                               |  |                         |
|           | Acute fish toxicity      | LC50        | 22 mg/l    | 96 h  | Leuciscus idus (golden orfe)                  |  | DIN 38412 / part 15     |
|           | Acute algae toxicity     | ErC50       | 13,33 mg/l | 72 h  | Desmodesmus subspicatus                       |  |                         |
|           | Acute crustacea toxicity | EC50        | 8,68 mg/l  | 48 h  | Daphnia magna (Big water flea)                |  |                         |
|           | Fish toxicity            | NOEC        | 10 mg/l    | 4 d   | Leuciscus idus (golden orfe)                  |  | DIN 38412 / part 15     |
| 80-56-8   | PINENE                   |             |            |       |                                               |  |                         |
|           | Acute fish toxicity      | LC50        | 0,27 mg/l  | 96 h  | Cyprinus carpio (Common Carp)                 |  |                         |
|           | Acute crustacea toxicity | EC50        | 0,475 mg/l | 48 h  | Daphnia magna (Big water flea)                |  |                         |
|           | Algae toxicity           | NOEC        | 0,247 mg/l |       |                                               |  |                         |
| 470-82-6  | EUCALYPTOL               |             |            |       |                                               |  |                         |
|           | Acute fish toxicity      | LC50        | 57 mg/l    | 96 h  | Oncorhynchus mykiss (Rainbow trout)           |  |                         |
|           | Acute algae toxicity     | ErC50       | >74 mg/l   | 72 h  | Pseudokirchneriella subcapitata               |  |                         |
|           | Acute crustacea toxicity | EC50        | >100 mg/l  | 48 h  | Daphnia magna (Big water flea)                |  |                         |
|           | Fish toxicity            | NOEC        | 32 mg/l    | 4 d   | Oncorhynchus mykiss (Rainbow trout)           |  |                         |
|           | Crustacea toxicity       | NOEC        | 100 mg/l   | 2 d   |                                               |  |                         |
|           | Acute bacteria toxicity  | (EC50       | >100 mg/l) | 3 h   | Respiration inhibition of activated sludge    |  |                         |
| 99-85-4   | GAMMA-TERPINENE          |             |            |       |                                               |  |                         |
|           | Acute fish toxicity      | LC50        | 2,792 mg/l | 96 h  | Danio rerio (zebrafish)                       |  | OECD Test Guideline 203 |
|           | Acute algae toxicity     | ErC50       | 10,82 mg/l | 72 h  | Scenedesmus capricornutum (fresh water algae) |  | OECD Test Guideline 201 |
|           | Acute crustacea toxicity | EC50 mg/l   | 10,189     | 48 h  | Daphnia magna (Big water flea)                |  | OECD Test Guideline 202 |

|          |                          |                   |      |                                            |  |                         |
|----------|--------------------------|-------------------|------|--------------------------------------------|--|-------------------------|
|          | Acute bacteria toxicity  | (EC50 >1000 mg/l) | 3 h  | Respiration inhibition of activated sludge |  | OECD 209                |
| 115-95-7 | LINALYL ACETATE          |                   |      |                                            |  |                         |
|          | Acute fish toxicity      | LC50 11 mg/l      | 96 h | Cyprinus carpio (Common Carp)              |  | OECD 203                |
|          | Acute algae toxicity     | ErC50 68 mg/l     |      |                                            |  |                         |
|          | Acute crustacea toxicity | EC50 59 mg/l      | 48 h | Daphnia magna (Big water flea)             |  | OECD 202                |
|          | Algae toxicity           | NOEC 3,9 mg/l     |      |                                            |  |                         |
|          | Crustacea toxicity       | NOEC 25 mg/l      | 2 d  | Daphnia magna (Big water flea)             |  | OECD 202                |
|          | Acute bacteria toxicity  | (EC50 >100 mg/l)  | 3 h  | Activated sludge                           |  | OECD 209                |
| 586-62-9 | TERPINOLENE              |                   |      |                                            |  |                         |
|          | Acute fish toxicity      | LC50 0,805 mg/l   | 96 h | Danio rerio (zebrafish)                    |  |                         |
|          | Acute algae toxicity     | ErC50 0,692 mg/l  | 72 h | Pseudokirchneriella subcapitata            |  |                         |
|          | Acute crustacea toxicity | EC50 0,634 mg/l   | 48 h | Daphnia magna (Big water flea)             |  |                         |
|          | Acute bacteria toxicity  | (EC50 69 mg/l)    | 3 h  | Respiration inhibition of activated sludge |  |                         |
| 123-35-3 | MYRCENE                  |                   |      |                                            |  |                         |
|          | Acute fish toxicity      | LC50 1,3 mg/l     | 96 h | Danio rerio (zebrafish)                    |  | OECD Test Guideline 203 |
|          | Acute algae toxicity     | ErC50 0,342 mg/l  | 72 h | Pseudokirchneriella subcapitata            |  | OECD Test Guideline 201 |
|          | Acute crustacea toxicity | EC50 1,47 mg/l    | 48 h | Daphnia magna (Big water flea)             |  | OECD Test Guideline 202 |
| 87-44-5  | BETA-CARYOPHYLLENE       |                   |      |                                            |  |                         |
|          | Acute algae toxicity     | ErC50 >0,033 mg/l | 72 h | Pseudokirchneriella subcapitata            |  |                         |
|          | Acute crustacea toxicity | EC50 >0,17 mg/l   | 48 h | Daphnia magna (Big water flea)             |  |                         |
| 562-74-3 | 4-TERPINEOL              |                   |      |                                            |  |                         |
|          | Acute fish toxicity      | LC50 15,6 mg/l    | 96 h |                                            |  |                         |
|          | Acute algae toxicity     | ErC50 21,4 mg/l   | 72 h |                                            |  |                         |
|          | Acute crustacea toxicity | EC50 26,6 mg/l    | 48 h |                                            |  |                         |
|          | Algae toxicity           | NOEC 9,65 mg/l    | 3 d  |                                            |  |                         |
|          | Acute bacteria toxicity  | (EC50 237 mg/l)   | 3 h  |                                            |  |                         |

## 12.2 Persistence and degradability

No data is available on the product itself.

| CAS No    | Chemical name                                         |        |    |        |
|-----------|-------------------------------------------------------|--------|----|--------|
|           | Method                                                | Value  | d  | Source |
|           | Evaluation                                            |        |    |        |
| 5989-27-5 | (R)-p-mentha-1,8-diene; d-limonene                    |        |    |        |
|           | OECD 301B                                             | 71,4%  | 28 |        |
|           | Readily biodegradable (according to OECD criteria).   |        |    |        |
| 78-70-6   | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool |        |    |        |
|           | OECD 301D/ EEC 92/69/V, C.4-E                         | 64,2%  | 28 |        |
| 106-24-1  | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol         |        |    |        |
|           | OECD 301A                                             | >90%   | 3  |        |
|           | Not readily biodegradable.                            |        |    |        |
| 106-22-9  | CITRONELLOL                                           |        |    |        |
|           | Degradation OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D   | 80%    | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 5392-40-5 | citral                                                |        |    |        |
|           | Degradation OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D   | >90%   | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 106-23-0  | CITRONELLAL                                           |        |    |        |
|           | OECD 301B                                             | 83%    | 28 |        |
|           | Readily biodegradable (according to OECD criteria).   |        |    |        |
| 80-56-8   | PINENE                                                |        |    |        |
|           | Degradation OECD 301D/ EEC 92/69/V, C.4-E             | 68%    | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 470-82-6  | EUCALYPTOL                                            |        |    |        |
|           | Degradation OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D   | 82%    | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 115-95-7  | LINALYL ACETATE                                       |        |    |        |
|           | Degradation OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D   | 70-80% | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 586-62-9  | TERPINOLENE                                           |        |    |        |
|           | OECD 301D/ EEC 92/69/V, C.4-E                         | 81%    | 28 |        |
|           | Readily biodegradable.                                |        |    |        |
| 123-35-3  | MYRCENE                                               |        |    |        |
|           | Degradation OECD 301D/ EEC 92/69/V, C.4-E             | 86%    | 14 |        |
|           | Readily biodegradable.                                |        |    |        |
| 87-44-5   | BETA-CARYOPHYLLENE                                    |        |    |        |
|           | Degradation OECD 301D/ EEC 92/69/V, C.4-E             | 10%    | 28 |        |
|           | Not readily biodegradable.                            |        |    |        |
| 562-74-3  | 4-TERPINEOL                                           |        |    |        |
|           |                                                       | 79%    | 28 |        |

### 12.3 Bioaccumulative potential

No data is available on the product itself.

### Partition coefficient n-octanol/water

| CAS No    | Chemical name                                         | Log Pow |
|-----------|-------------------------------------------------------|---------|
| 5989-27-5 | (R)-p-mentha-1,8-diene; d-limonene                    | 4,38    |
| 78-70-6   | linalool; 3,7-dimethyl-1,6-octadien-3-ol; dl-linalool | 2,9     |
| 106-24-1  | geraniol; (2E)-3,7-dimethylocta-2,6-dien-1-ol         | 2,6     |
| 106-22-9  | CITRONELLOL                                           | 3,41    |
| 5392-40-5 | citral                                                | 2,76    |
| 106-23-0  | CITRONELLAL                                           | 3,62    |
| 80-56-8   | PINENE                                                | 4,46    |
| 470-82-6  | EUCALYPTOL                                            | 3,4     |
| 99-85-4   | GAMMA-TERPINENE                                       | 5,4     |
| 115-95-7  | LINALYL ACETATE                                       | 3,9     |
| 586-62-9  | TERPINOLENE                                           | 4,24    |
| 123-35-3  | MYRCENE                                               | 4,82    |
| 87-44-5   | BETA-CARYOPHYLLENE                                    | 6,23    |
| 562-74-3  | 4-TERPINEOL                                           | 3,26    |

### BCF

| CAS No    | Chemical name | BCF   | Species | Source |
|-----------|---------------|-------|---------|--------|
| 106-22-9  | CITRONELLOL   | 82,59 |         |        |
| 5392-40-5 | citral        | 89,72 |         |        |
| 586-62-9  | TERPINOLENE   | 639,4 |         |        |

### 12.4 Mobility in soil

No data is available on the product itself.

### 12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## 12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

## 12.7 Other adverse effects

No data is available on the product itself.

# 13 SECTION 13: Disposal considerations

## 13.1 Waste treatment methods

### Disposal recommendations

Can be disposed of as a solid waste or burned in a suitable installation subject to local regulations. Empty containers can be landfilled, when in accordance with the local regulations.

### List of Wastes Code - residues/unused products

070199 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; wastes not otherwise specified

### List of Wastes Code - contaminated packaging

070199 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; wastes not otherwise specified

### Contaminated packaging

Can be disposed of as a solid waste or burned in a suitable installation subject to local regulations. Empty containers can be landfilled, when in accordance with the local regulations.

## 14 SECTION 14: Transport information

### Land transport (ADR/RID)

**14.1. UN number or ID number:** UN 1266  
**14.2. UN proper shipping name:** PERFUMERY PRODUCTS  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 163 640D  
 Limited quantity: 5 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 33  
 Tunnel restriction code: D/E

### Inland waterways transport (ADN)

**14.1. UN number or ID number:** UN 1266  
**14.2. UN proper shipping name:** Perfumery products  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 163 640D  
 Limited quantity: 5 L  
 Excepted quantity: E2

## Marine transport (IMDG)

|                                          |                    |
|------------------------------------------|--------------------|
| <b>14.1. UN number or ID number:</b>     | UN 1266            |
| <b>14.2. UN proper shipping name:</b>    | PERFUMERY PRODUCTS |
| <b>14.3. Transport hazard class(es):</b> | 3                  |
| <b>14.4. Packing group:</b>              | II                 |
| Hazard label:                            | 3                  |



|                     |          |
|---------------------|----------|
| Special Provisions: | 163      |
| Limited quantity:   | 5 L      |
| Excepted quantity:  | E2       |
| EmS:                | F-E, S-D |

## Air transport (ICAO-TI/IATA-DGR)

|                                          |                    |
|------------------------------------------|--------------------|
| <b>14.1. UN number or ID number:</b>     | UN 1266            |
| <b>14.2. UN proper shipping name:</b>    | PERFUMERY PRODUCTS |
| <b>14.3. Transport hazard class(es):</b> | 3                  |
| <b>14.4. Packing group:</b>              | II                 |
| Hazard label:                            | 3                  |



|                                        |        |
|----------------------------------------|--------|
| Special Provisions:                    | A3 A72 |
| Limited quantity Passenger:            | 1 L    |
| Passenger LQ:                          | Y341   |
| Excepted quantity:                     | E2     |
| IATA-packing instructions - Passenger: | 353    |
| IATA-max. quantity - Passenger:        | 5 L    |
| IATA-packing instructions - Cargo:     | 364    |
| IATA-max. quantity - Cargo:            | 60 L   |

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: (R)-p-mentha-1,8-diene; d-limonene, PINENE, GAMMA-Terpinene, TERPINOLENE, MYRCENE

#### 14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practice. Health injuries are not known or expected under normal use.

### 15 SECTION 15: Regulatory information

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

##### EU regulatory information

Restrictions on use (REACH, annex XVII): Entry 3, Entry 40, Entry 75  
 2010/75/EU (VOC): 82,54 % (668,574 g/l)  
 2004/42/EC (VOC): Not applicable.  
 Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment  
 Additional information: P5c

##### Additional information

Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers. Take note of Dir 94/33/EC on the protection of young people at work.

##### National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.  
 Water hazard class (D): 2 - obviously hazardous to water

## 16 SECTION 16: Other information

### Abbreviations and acronyms

Flam. Liq: Flammable liquids

Acute Tox: Acute toxicity

Asp. Tox: Aspiration hazard

Skin Irrit: Skin irritation

Eye Irrit: Eye irritation

Skin Sens: Skin sensitisation

Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

### Classification for mixtures and used evaluation method according to GB CLP Regulation

| Classification          | Classification procedure |
|-------------------------|--------------------------|
| Flam. Liq. 2; H225      | On basis of test data    |
| Skin Sens. 1; H317      | Calculation method       |
| Aquatic Chronic 2; H411 | Calculation method       |

**Relevant H and EUH statements (number and full text)**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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.

H413 May cause long lasting harmful effects to aquatic life.

**Further Information**

All data refer to the product upon delivery. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.