

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

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

◊ **1.1 Product identifier**

◊ Trade name: **Citronellöl EuAB / 01-4310**

◊ Article number: S0100023

◊ Registration number

-

01-2120741487-48-0015

◊ **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.

◊ Application of the substance / the mixture Flavour/Fragrance

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

◊ Manufacturer/Supplier:

Frey & Lau GmbH

Immenhacken 12, D-24558 Henstedt-Ulzburg

Tel:++49-4193-9953 Fax: +49-4193-9955-80

◊ Further information obtainable from:

Sachkundige Person Frey + Lau

info@freylau.de

◊ **1.4 Emergency telephone number:** ++49-40-54.77.99.56 WAKO

**. SECTION 2: Hazards identification**

◊ **2.1 Classification of the substance or mixture**

◊ Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

◊ **2.2 Label elements**

◊ Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

◊ Hazard pictograms



GHS05 GHS07 GHS09

◊ Signal word Danger

◊ Hazard-determining components of labelling:

3,7-Dimethylocta-2,6-dien-1-ole

Citronellal

dl-Citronellol

DIPENTENE

2,6-Octadien-1-ol-3,7-dimethylacetate

Eugenol

3,7-Dimethyl-1,6-octadien-3-ol

Farnesol

3,7-Dimethyl-2,6-octadien-1-al (cis und trans)

Nerol

◊ Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

◊ Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

(Contd. on page 2)

CH/GB

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 1)

- P321 Specific treatment (see on this label).  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- ◊ **2.3 Other hazards**
- ◊ Results of PBT and vPvB assessment
- ◊ PBT: Not applicable.
- ◊ vPvB: Not applicable.

**. SECTION 3: Composition/information on ingredients**

◊ **3.2 Chemical characterisation: Mixtures**

- ◊ CAS-No: 91771-61-8
- ◊ EINECS-No: 294-954-7
- ◊ Description: Mixture of substances listed below with nonhazardous additions.
- ◊ Dangerous components:
 

CAS: 106-23-0 Citronellal	>25-50%
EINECS: 203-376-6 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 106-24-1 3,7-Dimethylocta-2,6-dien-1-ole	>20-25%
EINECS: 203-377-1 Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	
CAS: 106-22-9 dl-Citronellol	>10-20%
EINECS: 203-375-0 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 138-86-3 DIPENTENE	>2,5-5%
EINECS: 205-341-0 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1B, H317	
CAS: 105-87-3 2,6-Octadien-1-ol-3,7-dimethylacetate	>2,5-5%
EINECS: 203-341-5 Skin Irrit. 2, H315; Skin Sens. 1B, H317; Aquatic Chronic 3, H412	
CAS: 150-84-5 Citronellyl acetate	>2,5-5%
EINECS: 205-775-0 Aquatic Chronic 2, H411; Skin Irrit. 2, H315	
CAS: 97-53-0 Eugenol	1-2,5%
EINECS: 202-589-1 Eye Irrit. 2, H319; Skin Sens. 1B, H317	
CAS: 89-79-2 l-Isopulegol	1-2,5%
EINECS: 201-940-6 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 78-70-6 3,7-Dimethyl-1,6-octadien-3-ol	1-2,5%
EINECS: 201-134-4 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317	
CAS: 4602-84-0 Farnesol	≥0,1-<1%
EINECS: 225-004-1 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317	
CAS: 5392-40-5 3,7-Dimethyl-2,6-octadien-1-al (cis und trans)	≥0,1-<1%
EINECS: 226-394-6 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 106-25-2 Nerol	≥0,1-<1%
EINECS: 203-378-7 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317	
CAS: 586-62-9 Terpinolene	≥0,1-<0,25%
EINECS: 209-578-0 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1B, H317	

◊ Additional information: For the wording of the listed hazard phrases refer to section 16.

**. SECTION 4: First aid measures**

◊ **4.1 Description of first aid measures**

- ◊ General information:  
Immediately remove any clothing soiled by the product.  
Seek immediate medical advice.
- ◊ After inhalation:  
Supply fresh air and to be sure call for a doctor.

(Contd. on page 3)

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 2)

- In case of unconsciousness place patient stably in side position for transportation.  
Seek immediate medical advice.*
- ◊ *After skin contact:  
Immediately wash with water and soap and rinse thoroughly.  
Seek medical treatment.*
  - ◊ *After eye contact:  
Rinse opened eye for several minutes under running water. Then consult a doctor.  
Seek immediate medical advice.*
  - ◊ *After swallowing:  
Drink plenty of water and provide fresh air. Call for a doctor immediately.  
Seek immediate medical advice.*
  - ◊ **4.2 Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
  - ◊ **4.3 Indication of any immediate medical attention and special treatment needed** *No further relevant information available.*

**. SECTION 5: Firefighting measures**

- ◊ **5.1 Extinguishing media**
- ◊ *Suitable extinguishing agents: CO<sub>2</sub>, sand, extinguishing powder. Do not use water.*
- ◊ *For safety reasons unsuitable extinguishing agents: Water with full jet*
- ◊ **5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*
- ◊ **5.3 Advice for firefighters**
- ◊ *Protective equipment: No special measures required.*

**. SECTION 6: Accidental release measures**

- ◊ **6.1 Personal precautions, protective equipment and emergency procedures**  
*Wear protective equipment. Keep unprotected persons away.*
- ◊ **6.2 Environmental precautions:**  
*Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.*
- ◊ **6.3 Methods and material for containment and cleaning up:**  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.*
- ◊ **6.4 Reference to other sections**  
*See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.*

**. SECTION 7: Handling and storage**

- ◊ **7.1 Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.*
- ◊ *Information about fire - and explosion protection: No special measures required.*
- ◊ **7.2 Conditions for safe storage, including any incompatibilities**
- ◊ *Storage:*
- ◊ *Requirements to be met by storerooms and receptacles: No special requirements.*
- ◊ *Information about storage in one common storage facility: Not required.*
- ◊ *Further information about storage conditions: Keep container tightly sealed.*
- ◊ *Storage class: 10*
- ◊ **7.3 Specific end use(s)** *No further relevant information available.*

CH/GB

(Contd. on page 4)

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

Trade name: Citronellöl EuAB / 01-4310

(Contd. of page 3)

**. SECTION 8: Exposure controls/personal protection**

- ◊ Additional information about design of technical facilities: No further data; see item 7.
- ◊ **8.1 Control parameters**
- ◊ Ingredients with limit values that require monitoring at the workplace:  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- ◊ Additional information: The lists valid during the making were used as basis.
- ◊ **8.2 Exposure controls**
- ◊ Personal protective equipment:
- ◊ General protective and hygienic measures:  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.
- ◊ Respiratory protection: Not required.
- ◊ Protection of hands:  
Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- ◊ Material of gloves  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
The multichemical-resistant glove Barrier 02-100 is recommended.
- ◊ Penetration time of glove material  
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- ◊ Eye protection: Tightly sealed goggles

**. SECTION 9: Physical and chemical properties**

- ◊ **9.1 Information on basic physical and chemical properties**
- ◊ General Information
- ◊ Appearance:
  - Form: Fluid
  - Colour: Yellow
- ◊ Odour: Characteristic
- ◊ Odour threshold: Not determined.
- ◊ pH-value: Not determined.
- ◊ Melting point/freezing point: Undetermined.
- ◊ Flash point: 90 °C
- ◊ Flammability (solid, gas): Not applicable.
- ◊ Decomposition temperature: Not determined.
- ◊ Auto-ignition temperature: Not determined.
- ◊ Explosive properties: Not determined.
- ◊ Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- ◊ Density at 20 °C: 0,885 g/cm<sup>3</sup>
- ◊ Relative density: Not determined.
- ◊ Vapour density: Not determined.
- ◊ Evaporation rate: Not determined.

(Contd. on page 5)

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 4)

- ◊ Solubility in / Miscibility with water: Not miscible or difficult to mix.
- ◊ Partition coefficient: n-octanol/water: Not determined.
- ◊ VOC (EC) 82,51 %
- ◊ **9.2 Other information** No further relevant information available.

**. SECTION 10: Stability and reactivity**

- ◊ **10.1 Reactivity** No further relevant information available.
- ◊ **10.2 Chemical stability**
- ◊ Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- ◊ **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- ◊ **10.4 Conditions to avoid** No further relevant information available.
- ◊ **10.5 Incompatible materials:** No further relevant information available.
- ◊ **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**. SECTION 11: Toxicological information**

- ◊ **11.1 Information on toxicological effects**
- ◊ Acute toxicity Based on available data, the classification criteria are not met.
- ◊ LD/LC50 values relevant for classification:  
**ATE (Acute Toxicity Estimates)**  
Oral LD50 50.000 mg/kg
- ◊ Primary irritant effect:
- ◊ Skin corrosion/irritation  
Causes skin irritation.
- ◊ Serious eye damage/irritation  
Causes serious eye damage.
- ◊ Respiratory or skin sensitisation  
May cause an allergic skin reaction.
- ◊ CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- ◊ Germ cell mutagenicity Based on available data, the classification criteria are not met.
- ◊ Carcinogenicity Based on available data, the classification criteria are not met.
- ◊ Reproductive toxicity 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.
- ◊ Aspiration hazard Based on available data, the classification criteria are not met.

**. SECTION 12: Ecological information**

- ◊ **12.1 Toxicity**
- ◊ Aquatic toxicity: No further relevant information available.
- ◊ **12.2 Persistence and degradability** No further relevant information available.
- ◊ **12.3 Bioaccumulative potential** No further relevant information available.
- ◊ **12.4 Mobility in soil** No further relevant information available.
- ◊ Ecotoxicological effects:
- ◊ Remark: Toxic for fish
- ◊ Additional ecological information:
- ◊ General notes:  
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.

(Contd. on page 6)

**Safety data sheet**  
 according to ChemV 2015 - SR 813.11

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 5)

Toxic for aquatic organisms

- ◊ **12.5 Results of PBT and vPvB assessment**
- ◊ PBT: Not applicable.
- ◊ vPvB: Not applicable.
- ◊ **12.6 Other adverse effects** No further relevant information available.

**. SECTION 13: Disposal considerations**

- ◊ **13.1 Waste treatment methods**
- ◊ Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- ◊ Uncleaned packaging:
- ◊ Recommendation: Disposal must be made according to official regulations.

**. SECTION 14: Transport information**

- ◊ **14.1 UN-Number** UN3082
- ◊ ADR, IMDG, IATA
- ◊ **14.2 UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIPENTENE, 3,7-Dimethyl-6-Octen-1-yl acetate)
- ◊ ADR ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIPENTENE, 3,7-Dimethyl-6-Octen-1-yl acetate), MARINE POLLUTANT
- ◊ IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (containing DIPENTENE, 3,7-Dimethyl-6-Octen-1-yl acetate)
- ◊ IATA
- ◊ **14.3 Transport hazard class(es)**
- ◊ ADR 9 (M6) Miscellaneous dangerous substances and articles.
- ◊ Class 9
- ◊ Label
- 
- ◊ IMDG, IATA 9 Miscellaneous dangerous substances and articles.
- ◊ Class 9
- ◊ Label
- ◊ **14.4 Packing group** III
- ◊ ADR, IMDG, IATA
- ◊ **14.5 Environmental hazards:** Product contains environmentally hazardous substances: DIPENTENE
- ◊ Marine pollutant: Yes
- ◊ Special marking (ADR): Symbol (fish and tree)
- ◊ Special marking (IATA): Symbol (fish and tree)
- ◊ **14.6 Special precautions for user** Warning: Miscellaneous dangerous substances and articles.
- ◊ Danger code (Kemler): 90
- ◊ EMS Number: F-A,S-F
- ◊ Stowage Category: A
- ◊ **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- ◊ Transport/Additional information:
- 
- ◊ ADR
- ◊ Limited quantities (LQ) 5L
- ◊ Excepted quantities (EQ) Code: E1
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 1000 ml
- ◊ Transport category 3

(Contd. on page 7)

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 6)

- ◊ IMDG
- ◊ Limited quantities (LQ)
- ◊ Excepted quantities (EQ)

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (DIPENTENE, 3,7-DIMETHYL-6-OCTEN-1-YL  
ACETATE), 9, III

- ◊ UN "Model Regulation":

**. SECTION 15: Regulatory information**

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

- ◊ Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.
- ◊ Hazard pictograms



- ◊ Signal word *Danger*

- ◊ Hazard-determining components of labelling:

3,7-Dimethylocta-2,6-dien-1-ole

Citronellal

dl-Citronellol

DIPENTENE

2,6-Octadien-1-ol-3,7-dimethylacetate

Eugenol

3,7-Dimethyl-1,6-octadien-3-ol

Farnesol

3,7-Dimethyl-2,6-octadien-1-al (cis und trans)

Nerol

- ◊ Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

- ◊ Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- ◊ Directive 2012/18/EU

- ◊ Named dangerous substances - ANNEX I None of the ingredients is listed.

- ◊ Seveso category E2 Hazardous to the Aquatic Environment

- ◊ Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t

- ◊ Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t

- ◊ REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

- ◊ **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**. SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Contd. on page 8)

**Safety data sheet**  
according to ChemV 2015 - SR 813.11

Printing date 12.12.2018

Version 333

Revision: 10.12.2018

**Trade name: Citronellöl EuAB / 01-4310**

(Contd. of page 7)

◊ **Relevant phrases**

- 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.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- 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.

◊ **Department issuing SDS: Regulatory Affairs**

◊ **Contact: Dr. Maja Zippel**

◊ **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1B: Skin sensitisation – Category 1B
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

CH/GB