

**Safety data sheet  
according to 1907/2006/EC**

Printing date 18.02.2015

Version Nr: 1

Revision: 18.02.2015

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

- **1.1 Product identifier**
- **Trade name** Clove oil
- **CAS Number:**  
8000-34-8
- **EC Number:** Not listed.
- **1.2 Relevant identified uses of the substance or mixture and uses advised against** None.
- **Application of the substance / the mixture** Natural product
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
**SUPPLIER:**  
KERN & Sohn GmbH  
Ziegelei 1  
D-72336 Balingen  
Deutschland / Germany
- **Informing department:** Kern & Sohn GmbH; +49 (0) 7433 9933-155; daniel.junger@kern-sohn.com
- **1.4 Emergency telephone number:**  
GIZ-Nord, Göttingen, Germany  
Member of EPECS Network  
EMERGENCY NUMBER : +49 551 19240

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.  
Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H312 Harmful in contact with skin.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2 H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
Xn; Harmful  
R21/22-65: Harmful in contact with skin and if swallowed. Harmful: may cause lung damage if swallowed.
- Xi; Irritant  
R36/37/38: Irritating to eyes, respiratory system and skin.
- Xi; Sensitising  
R43: May cause sensitisation by skin contact.
- **Information concerning particular hazards for human and environment:** void
- **Classification system:**  
The classification is in line with current EU lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.

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**· Hazard pictograms**

GHS07 GHS08

**· Signal word Danger****· Hazard statements***H302+H312 Harmful if swallowed or in contact with skin.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H317 May cause an allergic skin reaction.**H335 May cause respiratory irritation.**H304 May be fatal if swallowed and enters airways.***· Precautionary statements***P261 Avoid breathing mist/vapours/spray.**P280 Wear protective gloves/protective clothing/eye protection/face protection.**P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.**P302+P352 IF ON SKIN: Wash with plenty of soap and water.**P308+P313 IF exposed or concerned: Get medical advice/attention.**P331 Do NOT induce vomiting.**P403+P233 Store in a well-ventilated place. Keep container tightly closed.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· 2.3 Other hazards****· Results of PBT and vPvB assessment****· PBT:** No data available**· vPvB:** No data available**SECTION 3: Composition/information on ingredients****· 3.1 Substances****· CAS No. Designation:**

8000-34-8 Clove oil

**· Identification number(s):****· EC number:** Not listed.**· Additional information: INCI name:** EUGENIA CARYOPHYLLUS LEAF OIL**SECTION 4: First aid measures****· 4.1 Description of first aid measures****· General information***Personal protection for the First Aider.**Instantly remove any clothing soiled by the product.**Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.**If unconscious, place in recovery position and seek medical advice.***· After inhalation***Take affected persons into the open air and position comfortably**Supply fresh air. If required, provide artificial respiration. Keep patient warm.*

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With symptoms:

Seek medical treatment.

· **After skin contact**

Remove contaminated clothing.

Instantly rinse with water.

Or better;

Wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact**

Use eye protection.

Rinse opened eye for several minutes under running water. If symptoms persist, consult Oculist.

· **After swallowing**

Rinse out mouth and then drink (two glasses at the most) water.

Do not induce vomiting.

Call a doctor immediately.

Turn a vomiting person on the side if lying on the back.

If vomiting occurs, the head should be kept low.

· **4.2 Most important symptoms and effects, both acute and delayed**

Irritations after contact with eyes, skin and mucous membrane.

Irritating to respiratory tract.

After skin contact:

Allergic reactions

After swallowing:

Nausea

Vomiting

Diarrhoea

Possible other symptoms are currently not known.

· **Information for doctor** The toxicological properties of this material have not been fully investigated.

· **Danger**

Harmful if swallowed.

Harmful in contact with skin.

Irritation on eyes, skin and respiratory tract.

After skin contact allergic symptoms possible.

Danger of pulmonary oedema.

Danger of pneumonia.

May be fatal if swallowed and enters airways. Danger of pulmonary oedema.

There are at present no indications to further acute dangers for the health.

Further health dangers cannot be excluded however.

· **4.3 Indication of any immediate medical attention and special treatment needed**

Elemental assistance.

Decontamination.

Treat symptomatically and supportively.

**SECTION 5: Firefighting measures**

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

CO<sub>2</sub>, extinguishing powder or water fog. Fight larger fires with water fog or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

· **5.2 Special hazards arising from the substance or mixture**

Formation of poisonous gases during heating or in fires.

Can be released in case of fire:

Carbon monoxide and carbon dioxide.

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- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained breathing apparatus.  
Wear full protective suit.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter drains.  
Cool endangered containers with water spray jet.  
Heating causes a rise in pressure, risk of bursting.  
Container explosion may occur under fire conditions.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Use breathing protection against the effects of fumes/dust/aerosol.  
Keep away from sources of ignition.  
Ensure adequate ventilation  
Bring persons out of danger.
- **6.2 Environmental precautions:**  
Do not allow to enter sewage systems, water bodies, groundwater or soil.  
Inform respective authorities in case product reaches water, sewage system or soil.
- **6.3 Methods and material for containment and cleaning up:**  
Ensure adequate ventilation.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).  
Collect mechanically.  
Clean up affected area.  
May be recycled or disposed of in appropriate containers  
Dispose of contaminated material as waste according to item 13.
- **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 information on disposal.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Prevent formation of aerosols.  
Keep containers tightly closed.  
Ensure good ventilation/exhaustion at the workplace.
- **Hygiene measures:**  
Keep away from foodstuffs, beverages and feedingsstuff.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.  
Do not eat, drink or smoke while working.
- **Information about protection against explosions and fires:**  
Substance/product is flammable.  
Fire fighting equipment must be available.  
Protect from heat.  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**  
Store in original container if possible.  
Prevent any penetration into the ground.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Do not store together with materials/products which can form dangerous chemical reactions.  
See point 10: stability and reactivity.
- **Further information about storage conditions:**  
Store in a dry place. Store in a closed container.  
Protect from heat and direct sunlight.  
Store container in a well ventilated position.
- **Recommended storage temperature:** No data available
- **7.3 Specific end use(s)** No further relevant information available.

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

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**
- **Components with critical values that require monitoring at the workplace:** Not required.
- **DNELs** No data available
- **PNECs** No data available
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective measures:**  
The usual precautionary measures should be adhered to in handling the chemicals.
- **Breathing equipment:**  
If used in closed systems or well-ventilated area breathing protection is not necessary.  
Required when vapours, aerosol or mist are generated.



In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Filter A.

- **Protection of hands:**



Chemical-protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Check protective gloves prior to each use for their proper condition.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
Preventive skin protection by use of skin-protecting agents is recommended.

- **Material of gloves**  
Full contact:  
eg Butyl rubber, BR  
Recommended thickness of the material:  $\geq 0,3$  mm  
eg Natural rubber, NR

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Recommended thickness of the material:  $\geq 1$  mm

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.

ASK THE MANUFACTURER FOR SUITABLE MATERIAL.

· **Penetration time of glove material**

Full contact.

Permeation time: > 480 min (8h) EN 374

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:**

Strong gloves

Leather gloves

· **Eye protection:**



Safety glasses with side protection.

· **Body protection:**

Apron

Boots

or

Suitable chemical protection suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

**SECTION 9: Physical and chemical properties**

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Liquid

**Colour:** Dark brown

· **Smell:** characteristic

· **Odour threshold:** No data available

· **pH-value:** No data available

· **Change in condition**

**Melting point/Melting range:** No data available

**Boiling point/Boiling range:** ~ 251 °C

· **Flash point:** 115 °C

· **Ignition temperature:** No data available

· **Decomposition temperature:** No data available

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/steam mixtures is possible by heating.

· **Critical values for explosion:**

**Lower:** No data available

**Upper:** No data available

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- |   |  |
|---|--|
| · <b>Vapour pressure:</b>                         | No data available                          |
| · <b>Density</b>                                  | No data available                          |
| · <b>Vapour density</b>                           | Not determined.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Insoluble                                  |
| · <b>Partition coefficient (n-octanol/water):</b> | No data available                          |
| · <b>Viscosity:</b>                               |  |
| <b>dynamic:</b>                                   | No data available                          |
| <b>kinematic:</b>                                 | No data available                          |
| · <b>9.2 Other information</b>                    | No further relevant information available. |

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Conditions to be avoided:**  
No decomposition if used and stored according to specifications.  
To avoid thermal decomposition do not overheat.  
Flames, sparks, electrostatic charges.
- **10.3 Possibility of hazardous reactions**  
Forms explosive mixtures with air on intense heating.  
Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Poisonous gases/vapours  
Inflammable gases/vapours  
Can be released in case of fire:  
Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	1370 mg/kg (rodent - rat) (Toxnet)
Dermal	LD50	1200 mg/kg (rabbit) (Toxnet)

- **Primary irritant effect:**
- **on the skin:**  
Results from bioassays are not available.  
Irritant effect.
- **on the eye:**  
Results from bioassays are not available.  
Irritant effect.
- **Sensitisation:**  
Results from bioassays are not available.  
Sensitization possible by skin contact.
- **Subacute to chronic toxicity:**
- **mutagenic activity:**

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*No data available***carcinogenic activity:***No data available**IARC (International Agency for Research on Cancer )**No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.***teratogenic activity:***No data available***fertility impairment:***No data available***Additional toxicological information:***Aspiration into the lungs may cause chemical pneumonitis which can be fatal.**Harmful if swallowed.**Harmful in contact with skin.**Causes skin irritation.**Causes serious eye irritation.**May cause respiratory irritation.**May cause an allergic skin reaction.**Further hazardous properties cannot be excluded.**The substance / product should be handled with the care usual when dealing with chemicals.***Acute effects (acute toxicity, irritation and corrosivity)***May cause respiratory irritation.**May be fatal if swallowed and enters airways.***SECTION 12: Ecological information****12.1 Toxicity***· Aquatic toxicity: No data available**· Terrestrial toxicity: No data available**· 12.2 Persistence and degradability No data available**· 12.3 Bioaccumulative potential No data available**· 12.4 Mobility in soil No data available***Additional ecological information:***· AOX-indication: The product does not contribute to the AOX value of the waste water.***General notes:***Quantitative data on the ecological effect of this product are not available.**At present there are no ecotoxicological assessments.**Do not allow product to reach ground water, water bodies, sewage system or soil.***12.5 Results of PBT and vPvB assessment***· PBT: No data available**· vPvB: No data available**· 12.6 Other adverse effects No further relevant information available.***SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation***Must not be disposed of together with household garbage. Do not allow product to reach sewage system.**Disposal must be made according to official regulations.*

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· **European waste catalogue**

A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. In agreement with the waste code must be determined regional waste disposal authority or company.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· <b>14.1 UN-Number</b> · <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.2 UN proper shipping name</b> · <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.3 Transport hazard class(es)</b> · <b>ADR, ADN, IMDG, IATA</b> · <b>Class</b>	Void
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	-

**SECTION 15: Regulatory information**

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

· **TSCA (Toxic Substances Control Act):** Substance is listed.

· **National regulations**

· **Information on occupational restrictions:**

Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work

Council Directive 92/85/EEC Employment restrictions concerning pregnant and lactating women must be observed.

· **Other regulations, limitations and prohibitive regulations**

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer** not regulated

· **Regulation (EC) No 850/2004 on persistent organic pollutants and amending Directive 79/117/EEC**

not regulated

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product contains no SVHC above the legal limit of concentration  $\geq 0,1\%$  (w / w)

· **REGULATION (EU) No 649/2012 concerning the export and import of dangerous chemicals (PIC procedure):**

not regulated

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

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**SECTION 16: Other information**

These statements solely describe the safety demands of the product and base according to the best of our belief on our today's knowledge. They, however, do not represent any assurance towards properties of the product within the sense of liability, resp. guaranty regulations and thus are given without any obligation.

**· Abbreviations and acronyms:**

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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

Lit.: Literatur

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

**· Sources**

Information of distributor.

ECHA Classification and Labelling

[echa.europa.eu/de/view-article/-/journal\\_content/07005f81-abf1-4081-973b-6c7c526c39df](http://echa.europa.eu/de/view-article/-/journal_content/07005f81-abf1-4081-973b-6c7c526c39df)

Environmental Health and Toxicology National Library of Medicine TOXNET.

<http://sis.nlm.nih.gov/enviro.html>

CosIng COSMETIC INGREDIENTS & SUBSTANCES

<http://ec.europa.eu/enterprise/cosmetics/cosing/>

Chemikalienmanager, KCL-Software für den Handschutz

MSDS of different manufacturers.