



CLOVE LEAF ORGANIC OIL

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 1/28/2015 Revision date: 8/23/2021 Supersedes version of: 2/11/2021 Version: 1.3

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

1.1. Product identifier

Product form : Substance
Substance name : CLOVE LEAF ORGANIC OIL
EC-No. : 284-638-7
CAS-No. : 84961-50-2
Product code : BGIRHE02
Synonyms : CAS N° : 8000-34-8 / 8015-97-2
Product group : Organic essential oil

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Industrial/Professional use spec : For professional use only
Industrial

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

EXAFLOR
5 rue des Pyrénées
P.O. Box CP 30561
94653 Rungis Cedex - France
T +33 (0)1 41 73 23 10
exaflor@orange.fr - www.exaflor.co

1.4. Emergency telephone number

| Country | Organisation/Company | Address | Emergency number | Comment |
|---------|----------------------|---------|-------------------|---------|
| | ORFILA (FRANCE) | | +33 1 45 42 59 59 | |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4 H302
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Skin sensitisation, Category 1 H317
Aspiration hazard, Category 1 H304
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



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| | GHS07 | GHS08 | GHS09 |
|--------------------------------|---|-------|-------|
| Signal word (CLP) | : Danger | | |
| Hazard statements (CLP) | : 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. H411 - Toxic to aquatic life with long lasting effects. | | |
| Precautionary statements (CLP) | : P261 - Avoid breathing mist, fume, dust, vapours. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. 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. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor. P302+P352 - IF ON SKIN: Wash with plenty of water. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 - Specific treatment (see Read label before use. on this label). P331 - Do NOT induce vomiting. P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P405 - Store locked up. P501 - Dispose of contents/container to contents/container to agreed companies according to national regulations. | | |

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|---------|--------------------------|
| Name | : CLOVE LEAF ORGANIC OIL |
| CAS-No. | : 84961-50-2 |
| EC-No. | : 284-638-7 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--------------------|---------------------------------------|-----------|--|
| EUGENOL | CAS-No.: 97-53-0 EC-No.: 202-589-1 | 80 – 85 | Acute Tox. 4 (Oral), H302 (ATE=1930 mg/kg de poids corporel) Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 |
| BETA-CARYOPHYLLENE | CAS-No.: 87-44-5 EC-No.: 201-746-1 | 10 – 15 | Not classified |
| EUGENYL ACETATE | CAS-No.: 93-28-7 EC-No.: 202-235-6 | 0.1 – 2.5 | Acute Tox. 4 (Oral), H302 (ATE=1670 mg/kg de poids corporel) Skin Irrit. 2, H315 |

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Allow affected person to breathe fresh air. Allow the victim to rest. |
| First-aid measures after skin contact | : Wash with plenty of water/... Wash contaminated clothing before reuse. If skin irritation occurs: Gently wash with plenty of soap and water. Get medical advice/attention. Specific treatment (see Read label before use. on this label). If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Immediately call a POISON CENTER/doctor. |

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

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : May cause an allergic skin reaction. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye irritation. |
| Symptoms/effects after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. May be fatal if swallowed and enters airways. |

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing mist, fume, dust, vapours.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Maximum storage period : 3 year

Storage temperature : 18 (5 – 25) °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

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8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Wear protective gloves.

8.2.2.3. Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | : Liquid |
| Colour | : Yellow. light yellow. |
| Appearance | : Liquid mobile. |
| Odour | : aromatic. spicy. strong. typical of the main component. |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Non flammable. |
| Explosive limits | : Not available |
| Lower explosive limit (LEL) | : Not available |
| Upper explosive limit (UEL) | : Not available |
| Flash point | : 112 °C |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : Not available |
| Solubility | : Solubility in ethanol. Insoluble in water. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50 °C | : Not available |
| Density | : Not available |
| Relative density | : 1.033 – 1.053 |
| Relative vapour density at 20 °C | : Not available |
| Particle size | : Not applicable |
| Particle size distribution | : Not applicable |
| Particle shape | : Not applicable |
| Particle aspect ratio | : Not applicable |
| Particle aggregation state | : Not applicable |
| Particle agglomeration state | : Not applicable |
| Particle specific surface area | : Not applicable |
| Particle dustiness | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Refractive index : 1.525 – 1.545

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

CLOVE LEAF ORGANIC OIL (84961-50-2)

| | |
|---------------|--|
| LD50 oral rat | 1670 mg/m ³ EUGENYL ACETATE |
| LD50 oral | 2300 mg/kg EUGENOL |

EUGENOL (97-53-0)

| | |
|-----------------------------|---------------|
| LD50 oral rat | 1930 mg/kg |
| LC50 Inhalation - Rat [ppm] | > 384 ppmv/4h |

EUGENYL ACETATE (93-28-7)

| | |
|--------------------|--------------|
| LD50 oral rat | 1670 mg/kg |
| LD50 dermal rabbit | > 5000 mg/kg |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

EUGENOL (97-53-0)

| | |
|------------|----------------------|
| IARC group | 3 - Not classifiable |
|------------|----------------------|

Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-single exposure : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-repeated exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

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Aspiration hazard : May be fatal if swallowed and enters airways.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

11.2.2. Other information

Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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

| EUGENOL (97-53-0) | |
|----------------------|--|
| LC50 - Fish [1] | 13 mg/l Brachydanio rerio (zebra-fish) - 96h |
| EC50 - Crustacea [1] | 1.13 mg/l EC50 48h - Daphnia magna [mg/l] |

12.2. Persistence and degradability

| CLOVE LEAF ORGANIC OIL (84961-50-2) | |
|-------------------------------------|--|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
| EUGENOL (97-53-0) | |
| Persistence and degradability | Readily biodegradable. May cause long-term adverse effects in the environment. |
| EUGENYL ACETATE (93-28-7) | |
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| CLOVE LEAF ORGANIC OIL (84961-50-2) | |
|---|------------------|
| Bioaccumulative potential | Not established. |
| EUGENOL (97-53-0) | |
| Partition coefficient n-octanol/water (Log Pow) | 2.7 |
| Partition coefficient n-octanol/water (Log Kow) | 2.27 |
| Bioaccumulative potential | Not established. |
| EUGENYL ACETATE (93-28-7) | |
| Partition coefficient n-octanol/water (Log Kow) | 3.06 |
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to contents/container to agreed companies according to national regulations.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable
:



IMDG

Transport hazard class(es) (IMDG) : Not applicable
:



IATA

Transport hazard class(es) (IATA) : Not applicable
:



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ADN

Transport hazard class(es) (ADN) : Not applicable
:



RID

Transport hazard class(es) (RID) : Not applicable
:



14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)

| Reference code | Applicable on | Entry title or description |
|----------------|------------------------|---|
| 3. | CLOVE LEAF ORGANIC OIL | Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 |

CLOVE LEAF ORGANIC OIL is not on the REACH Candidate List

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CLOVE LEAF ORGANIC OIL is not on the REACH Annex XIV List

CLOVE LEAF ORGANIC OIL is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

CLOVE LEAF ORGANIC OIL is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV; ID No. 2905)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

| Full text of H- and EUH-statements | |
|------------------------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| 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. |
| H411 | Toxic to aquatic life with long lasting effects. |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.