

CERTIFICATE OF ANALYSIS (COA)

| | |
|-----------------------|---|
| Product Name | CLOVE BUD ESSENTIAL OIL |
| Botanical Name | Syzygium aromaticum (synonym Eugenia caryophyllata) |
| Product Code | AECLVO |
| CAS # | 8000-34-8 ; 84961-50-2 |
| FEMA # | 2323 |
| EINECS # | 284-638-7 |
| INCI Name | Eugenia Caryophyllus (Clove) Flower Oil |

| | |
|---------------------------|----------------|
| Batch # | LTSH0522410 |
| Manufacturing Date | OCTOBER 2024 |
| Best Before Date | SEPTEMBER 2027 |

| | |
|----------------------------|-------------------------------|
| Part Used | Buds |
| Extraction Method | Steam Distilled Essential Oil |
| Quality | 100% Pure and Natural |
| Note Classification | Middle Note |

| <u>PROPERTIES</u> | <u>SPECIFICATIONS</u> | <u>RESULTS</u> |
|--------------------------------|--|----------------|
| Appearance | Pale yellow to golden colored liquid | CONFORMS |
| Odour | Rich warm, sweet-spicy, eugenolic aroma | CONFORMS |
| Refractive Index | 1.525 - 1.545 @ 20°C | 1.534 |
| Specific Gravity (g/mL) | 1.042 - 1.070 @ 20°C | 1.044 |
| Optical Rotation (°) | -2° to 0° | CONFORMS |
| Solubility | Soluble in alcohols and fixed oils; Insoluble in water | CONFORMS |

| | |
|-----------------|----------------------------|
| Comments | Odour quality is excellent |
|-----------------|----------------------------|

| <u>MICROBIAL ANALYSIS</u> | <u>SPECIFICATIONS</u> | <u>STANDARDS</u> | <u>RESULTS</u> |
|---|------------------------------|-------------------------|-----------------------|
| Aerobic Mesophilic Bacterial Count | < 100 CFU/g | ISO 21149 | CONFORMS |
| Yeast and Mould | < 10 CFU/g | ISO 16212 | CONFORMS |
| Candida albicans | ABSENT / 1g | ISO 18416 | CONFORMS |
| Escherichia coli | ABSENT / 1g | ISO 21150 | CONFORMS |
| Pseudomonas aeruginosa | ABSENT / 1g | ISO 22717 | CONFORMS |
| Staphylococcus aureus | ABSENT / 1g | ISO 22718 | CONFORMS |

| <u>HEAVY METAL TESTS</u> | <u>SPECIFICATIONS</u> | <u>STANDARDS</u> | <u>RESULTS</u> |
|-----------------------------------|------------------------------|-------------------------|-----------------------|
| Lead: Pb (mg/kg or ppm) | < 10 ppm | na | CONFORMS |
| Arsenic: As (mg/kg or ppm) | < 2 ppm | na | CONFORMS |
| Mercury: Hg (mg/kg or ppm) | < 1 ppm | na | CONFORMS |

STABILITY AND STORAGE:

Keep in tightly closed container in a cool and dry place, protected from sunlight. When stored for more than 36 months, quality should be checked before use.

As it is electronically generated document, hence no signature required.

Disclaimer & Caution: Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. LTSH provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the product, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of LTSH, no representation or warranty - expressed or implied - is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of LTSH is limited to the value of the goods and does not include any consequential loss. LTSH shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. LTSH shall not be responsible for any damages resulting from the use of or reliance upon this information.

TECHNICAL DATA SHEET (TDS)

| | |
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|---|-----------------------|------------------|
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CLOVE BUD ESSENTIAL OIL

PRODUCT CODE: AECLVO

1. IDENTIFICATION

| | |
|--|---|
| Product Description: | CLOVE BUD ESSENTIAL OIL |
| CAS #: | 8000-34-8 ; 84961-50-2 |
| INCI Name: | Eugenia Caryophyllus (Clove) Flower Oil |
| Botanical Name: | Syzygium aromaticum (syn Eugenia caryophyllata) [®] |
| Other means of identification Product Code #: | AECLVO |
| Recommended use: | Concentrated aromatic ingredient which may be used in aromatherapy, natural perfumery, cosmetics and personal care formulations according to legal and IFRA guidelines. |

2. HAZARD(S) IDENTIFICATION

| | | |
|------------------------|--|-------------|
| Physical hazards: | Not classified. | |
| Health hazards: | Skin corrosion/irritation | Category 3 |
| | Serious eye damage/eye irritation | Category 2B |
| | Skin sensitizer | Category 1 |
| Environmental hazards: | Hazardous to the aquatic environment, acute hazard | Category 3 |
| | Hazardous to the aquatic environment, long-term hazard | Category 4 |

Label elements:



Signal word: Warning

Hazard statement: Causes mild skin irritation. Causes eye irritation. May cause an allergic skin reaction. May be harmful if swallowed and enters airways. Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.

Precautionary statement:

| | | |
|--|---|--|
| Prevention | P201 | Obtain special instructions before use. |
| | P202 | Do not handle until all safety precautions have been read and understood. |
| | P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| | P264 | Wash thoroughly after handling. |
| | P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | 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. |
| | P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| | P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| | P370 + P378 | In case of fire: Use appropriate media to extinguish. |
| Storage | P403 | Store in a well-ventilated place. |
| Disposal | P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Hazard(s) not otherwise classified (HNOC): | None known. | |
| Supplemental information: | 100% of the substance consists of component(s) of unknown acute dermal toxicity. 100% of the substance consists of component(s) of unknown acute inhalation toxicity. 100% of the substance consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the substance consists of component(s) of unknown long-term hazards to the aquatic environment. | |

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

| Chemical Name | CAS number | EINECS number | % |
|---|------------------------|---------------|-----|
| Eugenia Caryophyllus (Clove) Flower Oil | 8000-34-8 ; 84961-50-2 | 284-638-7 | 100 |

4. FIRST-AID MEASURES

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|--|---|
| Inhalation | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist. |
| Skin contact | Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes. |
| Eye contact | Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids. |
| Ingestion | Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Not available. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. |

5. FIRE-FIGHTING MEASURES

| | |
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| Suitable extinguishing media: | Water spray, fog, CO2, dry chemical, or alcohol resistant foam. |
| Unsuitable extinguishing media: | Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards arising from the chemical: | Fire may produce irritating, corrosive and/or toxic gases. |
| Special protective equipment and precautions for firefighters: | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires. |
| Fire fighting equipment/instructions: | In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control. |
| Specific methods: | Use water spray to cool unopened containers. |
| General fire hazards: | Static charges generated by emptying package in or near flammable vapor may cause flash fire. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures: | Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. |
| Methods and materials for containment and cleaning up: | Collect and dispose of spillage as indicated in section 13 of the SDS. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. |
| Environmental precautions: | Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. |

7. HANDLING AND STORAGE

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|---|---|
| Precautions for safe handling: | Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling. |
| Conditions for safe storage, including any incompatibilities: | Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|-----------------------------------|--|
| Occupational exposure limits: | This substance has no PEL, TLV, or other recommended exposure limit. |
| Biological limit values: | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls: | Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded. |

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection: Chemical resistant gloves.

Other: Wear suitable protective clothing.

Respiratory protection: Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow to golden colored liquid.

Odor: Rich warm, sweet-spicy, eugenolic aroma.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: Not available.

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Vapor pressure: Not available.

Refractive Index: 1.525 - 1.545 @ 20°C.

Relative density: 1.042 - 1.070 @ 20°C.

Solubility in water: Insoluble.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not available

10. STABILITY AND REACTIVITY

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|-------------------------------------|---|
| Reactivity: | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability: | Material is stable under normal conditions. |
| Possibility of hazardous reactions: | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid: | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials: | Strong oxidizing agents. |
| Hazardous decomposition products: | No hazardous decomposition products if stored and handled as indicated. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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|---|--|
| Inhalation: | Knowledge about health hazard is incomplete. |
| Skin contact: | Knowledge about health hazard is incomplete. |
| Eye contact: | Knowledge about health hazard is incomplete. |
| Ingestion: | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics: | Direct contact with eyes may cause temporary irritation. |

Information on toxicological effects

| | |
|------------------------------------|---|
| Acute toxicity: | Not available. |
| Skin corrosion/irritation: | Due to partial or complete lack of data the classification is not possible. |
| Serious eye damage/eye irritation: | Due to partial or complete lack of data the classification is not possible. |
| Respiratory or skin sensitization | |
| Respiratory sensitization: | Due to partial or complete lack of data the classification is not possible. |
| Skin sensitization: | Due to partial or complete lack of data the classification is not possible. |
| Germ cell mutagenicity: | Due to partial or complete lack of data the classification is not possible. |
| Carcinogenicity: | Due to partial or complete lack of data the classification is not possible. |

IARC Monographs. Overall Evaluation of Carcinogenicity:

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053):

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens:

Not listed.

Reproductive toxicity: Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure: Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure: Due to partial or complete lack of data the classification is not possible.

Aspiration hazard: Due to partial or complete lack of data the classification is not possible.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability: No data is available on the degradability of this substance.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: Not established.

Waste from residues / unused products: Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

| Transport | Rule | Hazard class | Packing group | UN number |
|-----------|----------|---------------|---------------|---------------|
| Land | RID/ADR | Not Regulated | Not Regulated | Not Regulated |
| Maritime | IMDG | | | |
| Air | IATA/DGR | | | |

15. REGULATORY INFORMATION

US federal regulations

Toxic Substances Control Act (TSCA):

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4):

Not listed.

SARA 304 Emergency release notification:

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053):

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance:

Not listed.

SARA 311/312 Hazardous:

No listed

SARA 313 (TRI reporting):

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Not regulated.

Safe Drinking Water Act (SDWA):

Not regulated.

5. OTHER INFORMATION

Disclaimer:

LTSH cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of our knowledge. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

EU ALLERGENS DECLARATION

| | |
|-----------------------|---|
| Product Name | CLOVE BUD ESSENTIAL OIL |
| Botanical Name | Syzygium aromaticum |
| Product Code | AECLVO |
| INCI Name | Eugenia Caryophyllus (Clove) Flower Oil |

To the best of our knowledge, this product contains the following maximum percentage of naturally occurring ingredients listed as the 82 fragrance allergens in the **Commission Regulation (EU) 2023/1545 of 26 July 2023**, amending **Annex III** of the **Cosmetics Regulation (EC) No 1223/2009** as regards labelling of fragrance allergens in cosmetic products. These substances must be mentioned in the list of ingredients if their concentration exceeds **0.001%** in leave-on products and **0.01%** in rinse-off products.

Concentrations are given in % weight in the formula. Concentrations indicated as “-” indicate that the substances are <1ppm and generally below the level of detection using the standard methods developed by the International Fragrance Association (IFRA) (*Chaintreau et al., 2003, J. Agric. Food Chem.*, in press, and the *Method for analysis of allergens EN16274:2021 - Quantification of an extended list of 57 suspected allergens in ready to inject fragrance materials by gas chromatography mass spectrometry*).

| <u>Ingredient</u> | <u>MAXIMUM INCLUSION LEVEL (%)</u> |
|---|------------------------------------|
| Alpha-Isomethylionone CAS Number: 127-51-5 EC Number: 204-846-3 | - |
| Amyl Cinnamal CAS Number: 122-40-7 EC Number: 204-541-5 | - |
| Amylcinnamyl Alcohol CAS Number: 101-85-9 EC Number: 202-982-8 | - |
| Anise Alcohol CAS Number: 105-13-5 EC Number: 203-273-6 | - |
| Benzyl Alcohol CAS Number: 100-51-6 EC Number: 202-859-9 | 0.5 |
| Benzyl Benzoate CAS Number: 120-51-4 EC Number: 204-402-9 | - |
| Benzyl Cinnamate CAS Number: 103-41-3 EC Number: 203-109-3 | - |
| Benzyl Salicylate CAS Number: 118-58-1 EC Number: 204-262-9 | - |
| Butylphenyl Methylpropional CAS Number: 80-54-6 EC Number: 201-289-8 | - |

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| Cinnamal CAS Number: 104-55-2 EC Number: 203-213-9 | - |
| Cinnamyl Alcohol CAS Number: 104-54-1 EC Number: 203-212-3 | - |
| Citral (<i>Citral / Geranial / Neral</i>) CAS Number: 5392-40-5 / 141-27-5 / 106-26-3 EC Number: 226-394-6 / 205-476-5 / 203-379-2 | - |
| Citronellol CAS Number: 106-22-9 / 26489-01-0 / 1117-61-9 / 7540-51-4 EC Number: 203-375-0 / 247-737-6 / 214-250-5 / 231-415-7 | - |
| Coumarin CAS Number: 91-64-5 EC Number: 202-086-7 | - |
| Eugenol CAS Number: 97-53-0 EC Number: 202-589-1 | 85.0 |
| Farnesol CAS Number: 4602-84-0 EC Number: 225-004-1 | - |
| Geraniol CAS Number: 106-24-1 EC Number: 203-377-1 | - |
| Hexyl Cinnamal CAS Number: 101-86-0 EC Number: 202-983-3 | - |
| Hydroxycitronellal CAS Number: 107-75-5 EC Number: 203-518-7 | - |
| Isoeugenol CAS Number: 97-54-1 / 5932-68-3 / 5912-86-7 EC Number: 202-590-7 / 227-678-2 / 227-633-7 | 0.5 |
| Limonene CAS Number: 138-86-3 / 7705-14-8 / 5989-27-5 / 5989-54-8 EC Number: 205-341-0 / 231-732-0 / 227-813-5 / 227-815-6 | - |
| Linalool CAS Number: 78-70-6 EC Number: 201-134-4 | - |
| Methyl 2-Octynoate CAS Number: 111-12-6 EC Number: 203-836-6 | - |
| Evernia Furfuracea Extract (<i>Tree moss extract</i>) CAS Number: 90028-67-4 EC Number: 289-860-8 | - |
| Evernia Prunastri Extract (<i>Oak moss extract</i>) CAS Number: 90028-68-5 EC Number: 289-861-3 | - |

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| 3-Propylideneophthalide CAS Number: 17369-59-4 EC Number: 241-402-8 | - |
| 6-Methyl Coumarin CAS Number: 92-48-8 EC Number: 202-158-8 | - |
| Acetyl Cedrene CAS Number: 32388-55-9 EC Number: 251-020-3 | - |
| Alpha-Terpinene CAS Number: 99-86-5 EC Number: 202-795-1 | - |
| Amyl Salicylate CAS Number: 2050-08-0 EC Number: 218-080-2 | - |
| Anethole CAS Number: 104-46-1 / 4180-23-8 EC Number: 203-205-5 / 224-052-0 | - |
| Benzaldehyde CAS Number: 100-52-7 EC Number: 202-860-4 | - |
| Beta- Caryophyllene CAS Number: 87-44-5 EC Number: 201-746-1 | 7.0 |
| Camphor CAS Number: 76-22-2 / 21368-68-3 / 464-49-3 / 464-48-2 EC Number: 200-945-0 / 244-350-4 / 207-355-2 / 207-354-7 | - |
| Cananga Odorata Oil / Extract (<i>Cananga odorata</i> flower oil and extract; <i>Ylang Ylang</i> flower oil and extract) CAS Number: 83863-30-3 / 8006-81-3 / 68606-83-7 / 93686-30-7 EC Number: 281-092-1 / 297-681-1 | - |
| Carvone CAS Number: 99-49-0 / 6485-40-1 / 2244-16-8 EC Number: 202-759-5/ 229-352-5/ 218-827-2 | - |
| Cedrus Atlantica Oil / Extract (<i>Cedrus atlantica</i> oil and extract) CAS Number: 92201-55-3 / 8023-85-6 EC Number: 295-985-9 | - |
| Cinnamomum Cassia Leaf Oil CAS Number: 8007-80-5 / 84961-46-6 EC Number: 284-635-0 | - |
| Cinnamomum Zeylanicum Bark Oil CAS Number: 8015-91-6 / 84649-98-9 EC Number: 283-479-0 | - |
| Citrus Aurantium Bergamia Peel Oil (<i>Bergamot Oil</i>) CAS Number: 8007-75-8 / 89957-91-5 / 68648-33-9 / 8007-75-8 / 85049-52-1 EC Number: 616-915-9 289-612-9 | - |

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| Citrus Aurantium Flower Oil <i>(Citrus aurantium amara and dulcis flower oil)</i> CAS Number: 72968-50-4 / 8028-48-6 / 8016-38-4 EC Number: 277-143-2 / 232-433-8 | - |
| Citrus Aurantium Peel Oil <i>(Citrus aurantium amara and dulcis peel oil)</i> CAS Number: 68916-04-1 / 72968-50-4 / 97766-30-8 / 8028-48-6 / 8008-57-9 EC Number: 277-143-2 / 307-891-8 / 232-433-8 | - |
| Citrus Limon Peel Oil CAS Number: 84929-31-7/ 8008-56-8 EC Number: 284-515-8 | - |
| Dimethyl Phenethyl Acetate CAS Number: 151-05-3 EC Number: 205-781-3 | - |
| Eucalyptus Globulus Oil CAS Number: 97926-40-4 / 8000-48-4 EC Number: 308-257-3/ 616-775-9 | - |
| Eugenia Caryophyllus Oil CAS Number: 8000-34-8 / 8015-97-2 / 84961-50-2 EC Number: 616-772-2 / 284-638-7 | 100.0 |
| Eugenyl Acetate CAS Number: 93-28-7 EC Number: 202-235-6 | 11.0 |
| Geranyl Acetate CAS Number: 105-87-3 EC Number: 203-341-5 | - |
| Hexadecanolactone CAS Number: 109-29-5 EC Number: 203-662-0 | - |
| Hexamethylindanopyran CAS Number: 1222-05-5 EC Number: 214-946-9 | - |
| Isoeugenyl Acetate CAS Number: 93-29-8 EC Number: 202-236-1 | - |
| Jasmine Oil / Extract <i>(Jasminum grandiflorum / officinale oil and extract)</i> CAS Number: 84776-64-7 / 90045-94-6 / 8022-96-6 / 8024-43-9 EC Number: 283-993-5 / 289-960-1 | - |
| Juniperus Virginiana Oil CAS Number: 8000-27-9 / 85085-41-2 EC Number: 285-370-3 | - |
| Laurus Nobilis Leaf Oil CAS Number: 8002-41-3 / 8007-48-5 / 84603-73-6 EC Number: 283-272-5 | - |
| Lavandula Oil / Extract <i>(Lavandula hybrida oil/extract; Lavandula intermedia oil/extract; Lavandula angustifolia oil/extract)</i> CAS Number: 91722-69-9 / 8022-15-9 / 93455-96-0 / 93455-97-1 / 92623-76-2 / 84776-65-8 / 8000-28-0 / 90063-37-9 EC Number: 294-470-6 / 296-408-3 / 283-994-0/ 289-995-2 | - |

| | |
|--|---|
| Lemongrass Oil <i>(Cymbopogon citratus / schoenanthus / flexuosus oils)</i> CAS Number: 8007-02-1 / 89998-16-3 / 91844-92-7 EC Number: 289-754-1 / 295-161-9 | - |
| Linalyl Acetate CAS Number: 115-95-7 EC Number: 204-116-4 | - |
| Lippia citriodora absolute <i>(Verbena absolute)</i> CAS Number: 8024-12-2 / 85116-63-8 EC Number: 285-515-0 | - |
| Mentha Piperita Oil CAS Number: 8006-90-4 / 84082-70-2 EC Number: 282-015-4 | - |
| Mentha Viridis Leaf Oil <i>(Mentha spicata oil / Spearmint oil)</i> CAS Number: 8008-79-5/ 84696-51-5 EC Number: 616-927-4 / 283-656-2 | - |
| Menthol CAS Number: 89-78-1 / 1490-04-6 / 2216-51-5 / 15356-60-2 EC Number: 201-939-0 / 216-074-4 / 218-690-9 / 239-387-8 | - |
| Methyl Salicylate CAS Number: 119-36-8 EC Number: 204-317-7 | - |
| Myroxylon Pereirae Oil / Extract <i>(Myroxylon balsamum var. pereirae; extracts and distillates; Balsam Peru oil, absolute and anhydrol)</i> CAS Number: 8007-00-9 EC Number: 232-352-8 | - |
| Narcissus Extract <i>(Narcissus poeticus / pseudonarcissus / jonquilla / tazetta extract)</i> CAS Number: 90064-26-9 / 68917-12-4 / 90064-27-0 / 90064-25-8 EC Number: 290-087-3 / 290-088-9 / 290-086-8 | - |
| Pelargonium Graveolens Flower Oil CAS Number: 90082-51-2 / 8000-46-2 EC Number: 290-140-0 | - |
| Pinene CAS Number: 80-56-8 / 7785-70-8 / 127-91-3 / 18172-67-3 EC Number: 201-291-9 / 232-087-8 / 204-872-5 / 242-060-2 | - |
| Pinus Mugo <i>(Pinus mugo leaf and twig oil and extract)</i> CAS Number: 90082-72-7 EC Number: 290-163-6 | - |
| Pinus Pumila <i>(Pinus pumila leaf and twig oil and extract)</i> CAS Number: 97676-05-6 EC Number: 307-681-6 | - |
| Pogostemon Cablin Oil CAS Number: 8014-09-3 / 84238-39-1 EC Number: 282-493-4 | - |

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|--|---|
| Rose Flower Oil / Extract CAS Number: 8007-01-0 / 90106-38-0 / 93334-48-6 / 84696-47-9 / 84604-12-6 / 84604-13-7 / 92347-25-6 EC Number: 290-260-3 / 297-122-1 / 283-652-0 / 283-289-8 / 283-290-3 / 296-213-3 | - |
| Rose Ketones CAS Number: 43052-87-5 / 23726-94-5 / 24720-09-0 / 23696-85-7 / 57378-68-4 / 71048-82-3 / 23726-92-3 / 23726-91-2 EC Number: 245-845-8 / 246-430-4 / 245-833-2 / 260-709-8 / 275-156-8 / 245-843-7 / 245-842-1 | - |
| Salicylaldehyde CAS Number: 90-02-8 EC Number: 201-961-0 | - |
| Santalol CAS Number: 11031-45-1 / 115-71-9 / 77-42-9 EC Number: 234-262-4 / 204-102-8 / 201-027-2 | - |
| Santalum Album Oil CAS Number: 8006-87-9 / 84787-70-2 EC Number: 284-111-1 | - |
| Sclareol CAS Number: 515-03-7 EC Number: 208-194-0 | - |
| Terpineol CAS Number: 8000-41-7 / 98-55-5 / 138-87-4 / 586-81-2 EC Number: 232-268-1 / 202-680-6 / 205-342-6 / 209-584-3 | - |
| Terpinolene CAS Number: 586-62-9 EC Number: 209-578-0 | - |
| Tetramethyl acetyloctahydronaphthalenes CAS Number: 54464-57-2 / 54464-59-4 / 68155-66-8 / 68155-67-9 EC Number: 259-174-3 / 259-175-9 / 268-978-3 / 268-979-9 | - |
| Trimethylbenzenepropanol CAS Number: 103694-68-4 EC Number: 403-140-4 | - |
| Trimethylcyclopentenyl Methylisopentenol CAS Number: 67801-20-1 EC Number: 267-140-4 | - |
| Turpentine <i>(Turpentine gum Pinus spp.; Turpentine oil and rectified oil; Turpentine, steam distilled Pinus spp.)</i> CAS Number: 9005-90-7 / 8006-64-2 / 8052-14-0 EC Number: 232-688-5 / 232-350-7 | - |
| Vanillin CAS Number: 121-33-5 EC Number: 204-465-2 | - |

As it is electronically generated document, hence no signature required.

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IFRA CERTIFICATE OF CONFORMITY

Product Name: **CLOVE BUD ESSENTIAL OIL**

Botanical Name: *Syzygium aromaticum*

Product Code: AECLVO

We certify that the above product is in compliance with the Standards of the INTERNATIONAL FRAGRANCE ASSOCIATION (IFRA), up to and including the 51st Amendment to the IFRA Standards (published July, 2023), provided it is used in the following categories at a maximum concentration level of:

| IFRA Categories [See Annex for details] | Maximum level of use (%) |
|--|---------------------------------|
| Category 1 | 0.63% |
| Category 2 | 0.26% |
| Category 3 | 0.80% |
| Category 4 | 2.94% |
| Category 5A | 1.75% |
| Category 5B | 1.75% |
| Category 5C | 1.75% |
| Category 5D | 1.25% |
| Category 6 | 1.75% |
| Category 7A | 2.20% |
| Category 7B | 2.20% |
| Category 8 | 0.25% |
| Category 9 | 2.80% |
| Category 10A | 2.80% |
| Category 10B | 6.40% |
| Category 11A | 1.25% |
| Category 11B | 1.25% |
| Category 12 | 100.00% |

For other kinds of application or use at higher concentration levels, a new safety evaluation may be needed.

The IFRA Standards regarding use restrictions are based on safety assessments by the Panel of Experts of the RESEARCH INSTITUTE FOR FRAGRANCE MATERIALS (RIFM) and are enforced by the IFRA Scientific Committee.

It is the ultimate responsibility of our customer to ensure the safety of the final product by further testing if need be.

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ANNEX I: Guidance for the use of IFRA Standards

| Category | Product type | Phototoxicity considerations |
|----------|---|---|
| 1 | Products applied to the lips | Applicable (leave-on) |
| 2 | Products applied to the axillae | Applicable (leave-on) |
| 3 | Products applied to the face/body using fingertips | Applicable (leave-on) |
| 4 | Products related to fine fragrance | Applicable (leave-on) |
| 5 | Products applied to the face and body using the hands (palms), primarily leave-on: | |
| 5A | Body lotion products applied to the body using the hands (palms), primarily leave-on | Applicable (leave-on) |
| 5B | Face moisturizer products applied to the face using the hands (palms), primarily leave-on | Applicable (leave-on) |
| 5C | Hand cream products applied to the hands using the hands (palms), primarily leave-on | Applicable (leave-on) |
| 5D | Baby creams, baby Oils and baby talc | Applicable (leave-on) |
| 6 | Products with oral and lip exposure | Applicable (rinse-off) |
| 7 | Products applied to the hair with some hand contact: | |
| 7A | Rinse-off products applied to the hair with some hand contact | Applicable (rinse-off) |
| 7B | Leave-on products applied to the hair with some hand contact | Applicable (leave-on) |
| 8 | Products with significant anogenital exposure | Applicable (leave-on) |
| 9 | Products with body and hand exposure, primarily rinse off | Applicable (rinse-off) |
| 10 | Household care products with mostly hand contact: | |
| 10A | Household care excluding aerosol products (excluding aerosol/spray products) | Applicable (rinse-off) |
| 10B | Household aerosol/spray products | Applicable (leave-on) |
| 11 | Products with intended skin contact but minimal transfer of fragrance to skin from inert substrate: | |
| 11A | Products with intended skin contact but minimal transfer of fragrance to skin from inert substrate without UV exposure | Not applicable (leave-on without UV exposure) |
| 11B | Products with intended skin contact but minimal transfer of fragrance to skin from inert substrate with potential UV exposure | Applicable (leave-on) |
| 12 | Products not intended for direct skin contact, minimal or insignificant transfer to skin | Not applicable (non-skin contact) |

Disclaimer & Caution: This Certificate provides restrictions for use of the specified product based only on those materials restricted by IFRA Standards for the toxicity endpoint(s) described in each Standard. This Certificate does not provide certification of a comprehensive safety assessment of all product constituents.

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Annex II: List of IFRA categories and subcategories with corresponding product

| Category | Product type |
|----------|--|
| 1 | Lip Products of all types (solid and liquid lipsticks, balms, clear or colored, etc.) // Children's toys |
| 2 | Deodorant and antiperspirant products of all types including any product with intended or reasonably foreseeable use on the axillae or labelled as such (spray, stick, roll-on, under-arm, deo- cologne, etc.) // Body sprays (including body mist) |
| 3 | Eye products of all types (eye shadow, mascara, eyeliner, eye make-up, eye masks, eye pillows, etc.) including eye care and moisturizer // Facial make up and foundation // Make-up remover for face and eyes // Nose pore strips // Wipes or refreshing tissues for face, neck, hands, body // Body and face paint (for children and adults) // Facial masks for face and around the eyes |
| 4 | Hydroalcoholic and non- hydroalcoholic fine fragrance of all types (Eau de Toilette, Parfum, Cologne, solid perfume, fragancing cream, etc.), aftershaves of all types (except creams and balms) // Fragranced bracelets // Ingredients of perfume kits and fragrance mixtures for cosmetic kits // Scent pads, foil packs // Scent strips for hydroalcoholic products |
| 5A | Body creams, oils, lotions of all types // Foot care products (creams and powders) // Insect repellent (intended to be applied to the skin) // All powders and talc (excluding baby powders and talc) |
| 5B | Facial toner // Facial moisturizers and creams (including care products for beard and mustache) |
| 5C | Hand cream // Nail care products including cuticle creams, nail lacquer remover, etc. // Hand sanitizers |
| 5D | Baby cream/lotion, baby oil, baby powders and talc |
| 6 | Toothpaste // Mouthwash, including breath sprays // Toothpowder, strips, mouthwash tablets |
| 7A | Hair permanent or other hair chemical treatments (rinse-off) (e.g., relaxers), including rinse-off hair dyes |
| 7B | Hair sprays of all types (pumps, aerosol sprays, etc.) // Hair styling aids non sprays (mousse, gels, leave-on conditioners) // Hair permanent or other hair chemical treatments (leave-on) (e.g., relaxers), including leave-on hair dyes // Shampoo - Dry (waterless shampoo) // Hair deodorizer, hair perfume |
| 8 | Intimate wipes // Intimate deodorant spray // Tampons // Baby wipes // Toilet paper (wet) |
| 9 | Bar soap // Shampoo of all types // Cleanser for face (rinse-off) // Conditioner (rinse-off) // Liquid soap // Body washes and shower gels of all types // Baby wash, bath, shampoo // Bath gels, foams, mousses, salts, oils and other products added to bathwater (such as bath bombs) // Footcare products (feet are placed in a bath for soaking) // Shaving creams of all types (stick, gels, foams, etc.) // All depilatories (including facial) and waxes for mechanical hair removal // Shampoos for pets |
| 10A | Hand wash laundry detergent (including concentrates) // Laundry pre-treatment of all types (e.g. paste, sprays, sticks) // Hand dishwashing detergent (including concentrates) // Hard surface cleaners of all types (bathroom and kitchen cleansers, furniture polish, etc.) // Machine laundry detergents with skin contact (e.g., liquids, powders) including concentrates // Toilet seat wipes // Fabric softeners of all types excluding fabric softener sheets // Household cleaning products, other types including fabric cleaners, soft surface cleaners, carpet cleaners, furniture polishes sprays and wipes, leather cleaning wipes, stain removers, fabric enhancing sprays, treatment products for textiles (e.g., starch sprays, fabric treated with fragrances after wash, deodorizers for textiles or fabrics) // Floor wax // Fragranced oil for lamp ring, reed diffusers, pot-pourri, liquid refills for air fresheners (non-cartridge systems), etc. // Ironing water (Odorized distilled water) // Dry cleaning kits (involving manual application on the textile) |
| 10B | Animal sprays – sprays applied to animals of all types // Air freshener sprays, manual, including aerosol and pump // Aerosol/spray insecticides |
| 11A | Feminine hygiene conventional pads, interlabial pads // Baby diapers // Incontinence pant, pad // Toilet paper (dry) |
| 11B | Tights with moisturizers // Scented socks, gloves // Facial tissues (dry tissues) // Napkins // Pillow spray // Paper towels // Wheat bags // Facial masks (paper/protective) e.g., surgical masks not used as medical device // Fertilizers, solid (pellet or powder) |
| 12 | Candles of all types (including encased) // Laundry detergents for machine wash with minimal skin contact (e.g. Liquid tabs, pods) // Automated air fresheners and fragancing of all types (concentrated aerosol with metered doses (range 0.05-0.5mL/spray), plug-ins, closed systems, solid substrate, membrane delivery, electrical, powders, fragancing sachets, incense, liquid refills (cartridge), air freshening crystals, solid non aerosol car diffuser) // Air delivery systems // Cat litter // Cell phone cases // Deodorizers/maskers not intended for skin contact (e.g., fabric drying machine deodorizers, carpet powders) // Dry cleaning kits (placed in the dryer) // Dryer sheets and fabric softener sheets // Fuels // Insecticides (e.g., mosquito coil, paper, electrical, for clothing) excluding aerosol/sprays // Joss sticks or incense sticks // Dishwash detergent and deodorizers – for machine wash // Olfactive board games // Paints // Plastic articles (excluding toys) // Scratch and sniff // Scent pack // Scent delivery system (using dry air technology) // Shoe polishes // Rim blocks (toilet) // Toilet gel // Scent beads |

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