## 01. IDENTIFICATION OF THE SUBSTANCE/PREPARATION & THE COMPANY/UNDERTAKING

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| --- | --- | --- | --- | --- | --- | --- |
| **1.1** | **Product Identifier** | | | | | |
| Product Name | | | Clove Bud Oil. | | | |
| Biological Definition | | | Eugenia Caryophyllus Bud Oil is an essential oil steam-distilled from the dried flower buds of the Clove, *Syzygium aromaticum*, *syn. Eugenia caryophyllus, Myrtaceae*. | | | |
| INCI Name | | | Eugenia Caroyphyllus Bud Oil. | | | |
| Synonyms & Trade Names | | | - | | | |
| CAS-No | | 84961-50-2 | EC No. | 284-638-7 | EINECS No. | 284-638-7 |
| **1.2** | **Relative identified uses of the substance or mixture and uses advised against** | | | | | |
|  | Suitable for cosmetic, flavour, fragrance and professional use only. | | | | | |

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| **1.3** | **Details of the supplier of the safety data sheet** | | |
| Bomar Ltd,  Sea Road, Kilcoole, Co. Wicklow, Ireland | | | |
| 1.4 **Emergency Telephone number** | | | +353 (0)1 2875110 |

## 02. HAZARDS IDENTIFICATION

|  |  |  |  |
| --- | --- | --- | --- |
| **2.1** | **Classification of the substance or mixture** | | |
|  | The full text for all hazard statements displayed in Section 16. | | |
| Classification (EC 1272/2008) | | | |
|  | Physical hazards: Not classified  Health hazards: Skin Sens. 1B - H317, Eye Irrit. 2 - H319  Environmental hazards: Not classified | | |
| **2.2** | | **Label Elements** | |
| Label in accordance with (EC) No 1272/2008 | | | |
|  | GHS07  Icon  Description automatically generated | | |
| Signal Word | | | Warning |
| Contains | | | Eugenol |
| Hazard Statements | | | |
|  | H317 May cause an allergic skin reaction.  H319 Causes serious eye irritation. | | |
| Precautionary Statements | | | |
|  | P280 Wear protective gloves/protective clothing/eye protection.  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.  P391 Collect spillage.  P501 Dispose of contents in accordance with local, state or national legislation. | | |
| Supplementary Precautionary Statements | | | |
|  | P264 Wash hands thoroughly after handling. | | |
| **2.3** | | **Other Hazards** | |
| PBT or vPvB according to Annex XIII | | | No additional data available. |
| Adverse physio-chemical properties | | | No additional data available. |
| Adverse effects on human health | | | No additional data available. |

##### 03. COMPOSITION/INFORMATION ON INGREDIENTS

|  |  |
| --- | --- |
| **3.1** | **Substances** |
|  | **≤ 87.0% Eugenol**  CAS No:97-53-0 EC No: 202-589-1    Classification (EC 1272/2008) Skin Sens. 1B - H317, Eye Irrit. 2 - H319 |
|  | **10.0 – 20.0% Eugenyl Acetate** CAS No: 93-28-7 EC No: 202-235-6  Classification (EC 1272/2008) Acute Tox. 4 - H302 (ATE = 500) , Skin Sens. 1 - H317 |
|  | **3.0 – 9.0% beta-Caryophyllene** CAS No: 87-44-5 EC No: 201-746-1    Classification (EC 1272/2008) Asp. Tox. 1 - H304, Skin Sens. 1B - H317 |
|  | **≤ 1.0% Caryophyllene Oxide** CAS No 1139-30-6 EC No: 214-519-7    Classification (EC 1272/2008) Aquatic Chronic 2 - H411 |
|  | **≤ 1.0% Methyl Salicylate** CAS No: 119-36-8 EC No: 204-317-7  Classification (EC 1272/2008) Acute Tox. 4 - H302 (ATE = 890), Eye Dam. 1 - H318 |
|  | **≤ 0.3% Isoeugenol**  CAS No: 97-54-1 EC No: 202-590-7  Classification (EC 1272/2008) Acute Tox. 4 - H302 (ATE = 500), Acute Tox. 4 - H312 (ATE = 1100),  Skin Irrit. 2 - H315, Skin Sens. 1 - H317, Eye Irrit. 2 - H319 |
|  | **≤ 0.2% Methyl Eugenol** CAS No: 93-15-2 EC No: 202-223-0  Classification (EC 1272/2008) Acute Tox. 4 - H302 (ATE = 500), Muta. 2 - H341, Carc. 2 - H351 |
|  | **≤ 0.1% Benzaldehyde** CAS No: 100-52-7 EC No: 202-860-4  Classification (EC 1272/2008) Acute Tox. 4 - H302 |
|  | **≤ 0.1% Benzyl Salicylate** CAS No: 118-58-1 EC No: 204-262-9  Classification (EC 1272/2008) Skin Sens. 1B - H317, Eye Irrit. 2 - H319, Aquatic Chronic 3 - H412 |
|  | **≤ 0.1% Geraniol** CAS No: 106-24-1 EC No: 203-377-1  Classification (EC 1272/2008) Skin Irrit. 2 - H315, Skin Sens. 1 - H317, Eye Dam. 1 - H318 |
|  | **≤ 0.1% Furfural** CAS No: 98-01-1 EC No: 202-627-7  Classification (EC 1272/2008) Flam. Liq. 3 - H226, Acute Tox. 3 - H301 (ATE = 100), Acute Tox. 4 - H312  (ATE = 1100), Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Acute Tox. 2 - H330 (ATE = 0.5), STOT SE 3 - H335,  Carc. 2 - H351, Aquatic Chronic 3 - H412 |
|  | **≤ 0.1% Linalool** CAS No: 78-70-6 EC No: 201-134-4  Classification (EC 1272/2008) Skin Irrit. 2 - H315, Skin Sens. 1B - H317, Eye Irrit. 2 - H319 |

##### 04. FIRST AID MEASURES

|  |  |  |
| --- | --- | --- |
| **4.1** | **Description of first aid measures** | |
| Inhalation | | Remove from exposure area to fresh air. Get medical advice/attention. |
| Ingestion | | Do not induce vomiting. Ingestion may cause nausea and vomiting. Immediately rinse mouth and provide fresh air. Get medical advice/attention. |
| Skin Contact | | Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if any discomfort continues. |
| Eye Contact | | Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical advice/attention. Continue to rinse. |
| **4.2** | **Most important symptoms and effects, both acute and delayed** | |
|  | Symptoms/effects after skin contact: May cause an allergic skin reaction.  Symptoms/effects after eye contact: Eye irritation. | |
| **4.3** | **Indication of any immediate medical attention and special treatment needed** | |
|  | Treat symptomatically. | |

##### 05. FIRE-FIGHTING MEASURES

|  |  |
| --- | --- |
| **5.1** | **Extinguishing Media** |
|  | Suitable extinguishing media: carbon dioxide, dry chemical, foam.  Unsuitable extinguishing media: do not use water jet as an extinguisher, as this may scatter and spread fire. |
| **5.2** | **Special hazards arising from the product** |
|  | A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. Do not breathe in smoke.  Thermal decomposition or combustion products may include the following substances:  Carbon dioxide (CO2), Carbon monoxide (CO), other toxic gases.  Containers close to fire should be removed or cooled with water. |
| **5.3** | **Advice for firefighters** |
|  | Avoid inhalation of generated fumes or vapours. Wear self-contained breathing apparatus and appropriate protective clothing. |

##### 06. ACCIDENTAL RELEASE MEASURES

|  |  |
| --- | --- |
| **6.1** | **Personal precautions, protective equipment and emergency procedures** |
|  | Wear protective clothing as described in Section 8 of this safety data sheet. Handle the product using protective gloves resistant to the chemicals exposed. Avoid contact with skin and inhalation of its vapours. Maintain adequate ventilation in the working area after spilling. |
| **6.2** | **Environmental Precautions** |
|  | Do not discharge into drains, water courses or onto the ground. |
| **6.3** | **Methods and material for containment and cleaning up.** |
|  | Absorb with liquid binding material e.g. sand, diatomaceous earth, vermiculite.  Collect in closed and suitable containers for disposal in accordance with local, state or national legislation. Prevent any material from entering drains or waterways. Wash spill site after removal with a detergent. |
| **6.4** | **Reference to other sections** |
|  | Refer to information in Sections 7, 8 and 13. |

##### 07. HANDLING AND STORAGE

|  |  |
| --- | --- |
| **7.1** | **Precautions for safe handling** |
|  | Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapours or spray mist. Use only in area provided with adequate ventilation. |
| **7.2** | **Conditions for safe storage, including any incompatibilities** |
|  | Store in tightly-closed, original container in a dry, cool and well-ventilated area, away from potential sources of ignition and protected from light. |
| **7.3** | **Specific end use(s)** |
|  | No additional data available. |

##### 08. EXPOSURE CONTROLS/PERSONAL PROTECTION

|  |  |  |
| --- | --- | --- |
| **8.1** | **Control parameters** | |
|  | **Occupational Exposure Limits**  2-Furaldehyde (furfural) CAS No: 98-01-1  LTEL (8 hr TWA) 2 ppm, 8 mg/m³  STEL 5 ppm, 20 mg/m³  LTEL – Long Term Exposure Limit  STEL - Short Term Exposure Limit  Source UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)  Note: Can be absorbed through the skin. The assigned substance is due to concerns that dermal absorption will lead to systemic toxicity.  Source UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020) | |
| **8.2** | **Exposure controls** | |
| Protective Equipment | | |
|  | Icon  Description automatically generated A picture containing text, clipart  Description automatically generated Icon  Description automatically generated | |
| Process Conditions | | Provide eyewash station. |
| Engineering Measures | | Provide adequate ventilation. |
| Respiratory Equipment | | Generally unnecessary in a well ventilated area.  If ventilation is insufficient, respiratory protection must be worn. |
| Hand Protection | | Wear suitable protective gloves that are resistant to chemical agents in accordance with standard EN374. |
| Eye Protection | | Avoid contact with eyes.  Wear safety goggles in accordance with standard EN166. |
| Other Protection | | Wear appropriate clothing to prevent any possibility of skin contact. |
| Hygiene Measures | | Good personal hygiene practices are always advisable, especially when working with chemicals / oils. Do not eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. |
| Personal Protection | | Use of chemical resistant clothing is recommended when handling. |
| Skin Protection | | Wear appropriate protective clothing to prevent skin contact.  Work clothing worn by personnel should be laundered regularly.  After contact with the product, all parts of the body that have been exposed must be washed thoroughly. |
| Environmental Exposure Controls | | Avoid discharging into drainage water. Only eliminate by authorised companies. |

##### 09. PHYSICAL AND CHEMICAL PROPERTIES

|  |  |  |
| --- | --- | --- |
| **9.1** | **Information on basic physical and chemical properties** | |
| Appearance | | Clear liquid; Pale yellow to light brown. |
| Colour | | Pale yellow to light brown. |
| Odour | | Characteristic. |
| Relative Density | | Approx. 1.046 @20°C |
| Flash Point (°C) | | 120 |
| Refractive Index | | Approx. 1.533 @20°C |
| Melting Point (°C) | | No additional data available. |
| Boiling Point (°C) | | 248 |
| Vapour Pressure | | No additional data available. |
| Solubility in Water @20°C | | Insoluble. |
| Auto-ignition temperature (°C) | | 380°C @ 98.5 kPa using EU Method A.15 (DIN 51794) |
| **9.2** | **Other information** | |
|  | No additional data available. | |

##### 10. STABILITY AND REACTIVITY

|  |  |  |
| --- | --- | --- |
| **10.1** | | **Reactivity** |
|  | Presents no significant reactivity hazards. Stable under normal temperature conditions and recommended use. | |
| **10.2** | | **Chemical stability** |
|  | Stable under the recommended handling and storage conditions in section 7. | |
| **10.3** | | **Possible hazardous reactions** |
|  | Not expected under normal conditions of use. | |
| **10.4** | | **Conditions to Avoid** |
|  | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Prevent storing the product in open containers for long periods to prevent product deterioration. | |
| **10.5** | | **Incompatible materials** |
|  | Avoid contact with strong acids, alkalis or oxidising agents. | |
| **10.6** | | **Hazardous Decomposition Products** |
|  | Not expected under normal temperature conditions and recommended use.  Thermal decomposition may release/form oxides of carbon (carbon monoxide, carbon dioxide) and other toxic gases. | |

##### 11. TOXOLOGICAL INFORMATION

|  |  |  |  |
| --- | --- | --- | --- |
| **11.1** | | **Information on toxicological effects** | |
|  | Acute Toxicity | | Not classified.  Eugenol (97-53-0)  LD50 oral 2500 mg/kg bodyweight  Eugenyl acetate (93-28-7)  LD50 oral 1670 mg/kg bodyweight  Eugenyl methyl ether (93-15-2)  LD50 oral 1180 mg/kg bodyweight  Isoeugenol (97-54-1)  LD50 oral 1500 mg/kg bodyweight  LD50 dermal 1912 mg/kg bodyweight  Methyl salicylate (119-36-8)  LD50 oral  890 mg/kg bodyweight |
|  | Skin corrosion / irritation | | Not classified. |
|  | Serious eye damage / irritation | | Causes serious eye irritation. |
|  | Respiratory or skin sensitisation | | May cause an allergic skin reaction. |
|  | Germ Cell Mutagenicity | | Not classified. |
|  | Carcinogenicity | | Not classified. |
|  | Reproductive toxicity | | Not classified. |
|  | STOT-single exposure | | Not classified. |
|  | STOT-repeated exposure | | Not classified. |
|  | Aspiration hazard | | Not classified. |
|  | Photo-toxicity | | No additional data available. |
|  | Other Information | | No additional data available. |

##### 12. ECOLOGICAL INFORMATION

|  |  |  |
| --- | --- | --- |
| **12.1** | | **Toxicity** |
|  | Not classified.  LC50 fish 1 13 mg/l  EC50 Daphnia 1 1.13 mg/l  EC50 72h algae (1) 24 mg/l  NOEC chronic algae 23 mg/l | |
| **12.2** | | **Persistence & degradability** |
|  | No additional data available. | |
| **12.3** | | **Bioaccumulation Potential** |
|  | No additional data available. | |
| **12.4** | | **Mobility in soil** |
|  | No additional data available. | |
| **12.5** | | **Results of PBT and vPvB Assessment** |
|  | No additional data available. | |
| **12.6** | | **Other adverse effects** |
|  | No additional data available. | |

##### 13. DISPOSAL CONSIDERATIONS

|  |  |  |
| --- | --- | --- |
| **13.1** | | **Waste treatment methods** |
|  | Do not allow entry into drains or waterways.  **Waste:**  Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.  Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.  Do not contaminate the ground or water with waste. Do not dispose of waste into the environment.  **Soiled packaging:**  Empty container completely. Keep label(s) on container.  Dispose of via a certified disposal contractor. | |

##### 14. TRANSPORT INFORMATION

|  |  |  |  |
| --- | --- | --- | --- |
| **14.1** | | **UN number** | |
|  | | UN No. Road | Not regulated for transport. |
|  | | UN No. SEA | Not regulated for transport. |
|  | | UN No. AIR | Not regulated for transport. |
| **14.2** | | **UN proper shipping name** | |
|  | Not applicable - The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). | | |
| **14.3** | | **Transport hazard class(es)** | |
|  | Not applicable. | | |
| **14.4** | | **Packing group** | |
|  | Not applicable. | | |
| **14.5** | | **Environmental hazards** | |
|  | Not an environmentally hazardous substance/marine pollutant for transport. | | |
| **14.6** | | **Special precautions for user** | |
|  | See sections 6 – 8. | | |
| **14.7** | | **Transport in bulk according to Annex II of MARPOL73/78 and the IBC code** | |
|  | Not applicable. | | |

##### 15. REGULATORY INFORMATION

|  |  |  |
| --- | --- | --- |
| **15.1** | | **Safety, health and environmental regulations/legislation specific for the substance or mixture** |
|  | Statutory Instruments  The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).  Guidance Notes  Workplace Exposure Limits EH40. CHIP for everyone HSG(108).  EU Legislation  Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. | |
| **15.2** | | **Chemical safety assessment** |
|  | No additional information available. | |

##### 16. OTHER INFORMATION

|  |  |
| --- | --- |
| Hazard and/or Precautionary Statements in Full | H302 Harmful if swallowed.  H301 Toxic if swallowed.  H302 Harmful if swallowed.  H304 May be fatal if swallowed and enters airways.  H312 Harmful in contact with skin.  H315 Causes skin irritation.  H317 May cause an allergic skin reaction.  H318 Causes serious eye damage.  H319 Causes serious eye irritation.  H330 Fatal if inhaled.  H335 May cause respiratory irritation.  H341 Suspected of causing genetic defects.  H351 Suspected of causing cancer.  H411 Toxic to aquatic life with long lasting effects.  H412 Harmful to aquatic life with long lasting effects. |
| Other Information | None. |
| Revision Date | 09/09/2021 |
| Reason for revision | 05 Updated SDS  04 Updated SDS  03 Updated SDS – composition  02 Updated to new format  01 New SDS |
| Rev No/Repl, SDS Generated | 05, replaces 04 |

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