1 Identification

· Product identifier
· Trade name: Linalool Coeur de Bois natural
· Product number: 1166
· CAS Number: 78-70-6
· EC number: 201-134-4
· Index number: 603-235-00-2
· Application of the substance / the mixture: Food flavorings

2 Hazard(s) identification

· Classification of the substance or mixture

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Flam. Liq. 4 H227 Combustible liquid.

· Label elements: Harmful in contact with skin or if inhaled.
· GHS label elements

Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS07

· Signal word Warning
· Hazard statements
  H227 Combustible liquid.
  H315 Causes skin irritation.
· Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  P280 Wear protective gloves / eye protection / face protection.
  P332+P313 If skin irritation occurs: Get medical advice/attention.
  P362+P364 Take off contaminated clothing and wash it before reuse.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· Classification system:
  · NFPA ratings (scale 0 - 4)
    Health = 1
    Fire = 2
    Reactivity = 0
  · HMIS-ratings (scale 0 - 4)
    HEALTH 1 Health = 1
    FIRE 2 Fire = 2
    REACTIVITY 0 Reactivity = 0
· Other hazards
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances
  · CAS No. Description
    78-70-6 Linalool
  · Identification number(s)
    · EC number: 201-134-4
    · Index number: 603-235-00-2

4 First-aid measures

· Description of first aid measures
  · General information: Immediately remove any clothing soiled by the product.
  · After inhalation: Supply fresh air; consult doctor in case of complaints.
  · After skin contact: Immediately rinse with water.
Trade name: Linalool Coeur de Bois natural

- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed
    No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
  No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information**
  Cool endangered receptacles with water spray.
  Collect contaminated fire fighting water separately. It must not enter the sewage system.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
  Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

<table>
<thead>
<tr>
<th>PAC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC-1:</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>PAC-2:</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>PAC-3:</td>
<td>Substance is not listed.</td>
</tr>
</tbody>
</table>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
  Keep ignition sources away - Do not smoke.
8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
  - Components with limit values that require monitoring at the workplace: Not required.
  - Additional information: The lists that were valid during the creation were used as a basis.
- Exposure controls
  - Personal protective equipment:
  - General protective and hygienic measures:
    - Immediately remove all soiled and contaminated clothing.
    - Wash hands before breaks and at the end of work.
  - Breathing equipment: Not required.
  - Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material should be based on consideration of the penetration times, rates of diffusion and the degradation.
- Material of gloves
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- Penetration time of glove material
  - The exact break through time has to be determined by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Liquid
      - Color: According to product specification
      - Odor: According to product specification
Trade name: Linalool Coeur de Bois natural

<table>
<thead>
<tr>
<th>Property</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>194-197,960 °C (381.2-356.360 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>75 °C (167 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>0.87 g/cm³ (7.26015 lbs/gal)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.
11 Toxicological information

· Information on toxicological effects
  · Acute toxicity:

  · LD/LC50 values that are relevant for classification:

    ATE (Acute Toxicity Estimate)
    Oral LD50 2,790 mg/kg (rat)

    CAS: 78-70-6 Linalool
    Oral LD50 2,790 mg/kg (rat)
    Dermal LD50 5,610 mg/kg (rabbit)

  · Primary irritant effect:
    · on the skin: No irritant effect.
    · on the eye: No irritating effect.
    · Sensitization: No sensitizing effects known.

  · Additional toxicological information:

    · Carcinogenic categories
      · IARC (International Agency for Research on Cancer)
        Substance is not listed.
      · NTP (National Toxicology Program)
        Substance is not listed.
      · OSHA-Ca (Occupational Safety & Health Administration)
        Substance is not listed.

12 Ecological information

· Toxicity
  · Aquatic toxicity: No further relevant information available.
  · Persistence and degradability No further relevant information available.
  · Behavior in environmental systems:
    · Bioaccumulative potential No further relevant information available.
  · Mobility in soil No further relevant information available.

· Additional ecological information:

  · General notes:
    Water hazard class 1 (Assessment by list): slightly hazardous for water.
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

· Other adverse effects No further relevant information available.
### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
<th>UN proper shipping name DOT, ADR, ADN, IMDG, IATA</th>
<th>Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA</th>
<th>Packing group DOT, ADR, IMDG, IATA</th>
<th>Environmental hazards: Marine pollutant:</th>
<th>Special precautions for user</th>
<th>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</th>
<th>Transport/Additional information:</th>
<th>UN &quot;Model Regulation&quot;:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>No</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not dangerous according to the above specifications.</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>No</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td></td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>No</td>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport/Additional information:</td>
<td>Not dangerous according to the above specifications.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **TSCA (Toxic Substances Control Act):** Substance is listed.
  - **Section 355 (extremely hazardous substances):** Substance is not listed.
  - **Section 313 (Specific toxic chemical listings):** Substance is not listed.
  - **Proposition 65**
  - **Chemicals known to cause cancer:** Substance is not listed.
Safety Data Sheet
acc. to OSHA HCS

Printing date 02/11/2019
Reviewed on 02/08/2019

Trade name: Linalool Coeur de Bois natural

- Chemicals known to cause reproductive toxicity for females:
  Substance is not listed.

- Chemicals known to cause reproductive toxicity for males:
  Substance is not listed.

- Chemicals known to cause developmental toxicity:
  Substance is not listed.

- Carcinogenic categories
  - EPA (Environmental Protection Agency)
    Substance is not listed.
  - TLV (Threshold Limit Value established by ACGIH)
    Substance is not listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    Substance is not listed.

- GHS label elements
  Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.
  The substance is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms

  GHS07

- Signal word Warning
- Hazard statements
  H227 Combustible liquid.
  H315 Causes skin irritation.

- Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  P280 Wear protective gloves / eye protection / face protection.
  P332+P313 If skin irritation occurs: Get medical advice/attention.
  P362+P364 Take off contaminated clothing and wash it before reuse.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

- Department issuing SDS: Product Safety Department
- Contact:
  Product Safety Department
  productsafety@adv-bio.com
- Date of preparation / last revision 02/11/2019 / -
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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Flam. Liq. 4: Flammable liquids – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2