1 Identification

· Product identifier
  · Trade name: Hexyl alcohol natural
· Product number: 1097
· CAS Number: 111-27-3
· EC number: 203-852-3
· Index number: 603-059-00-6
· Application of the substance / the mixture Food flavorings

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· Manufacturer/Supplier:
  Advanced Biotech
  10 Taft Road
  Totowa, NJ 07512 USA

· Information department:
  Product Safety Department
  productsafety@adv-bio.com
· Emergency telephone number:
  1(800)635-5053 (Info Trac)
  1(352)323-3500 (International)
  During normal business hours: 1(973)339-6242

2 Hazard(s) identification

· Classification of the substance or mixture
  - GHS02 Flame
    Flam. Liq. 3 H226 Flammable liquid and vapor.
  - GHS07
    Acute Tox. 4 H302 Harmful if swallowed.

· 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**

GHS02  GHS07

**Signal word** Warning

**Hazard-determining components of labeling:**
hexan-1-ol

**Hazard statements**
H226 Flammable liquid and vapor.
H302 Harmful if swallowed.

**Precautionary statements**
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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
  - FIRE = 2
  - REACTIVITY = 0

**Other hazards**

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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**3 Composition/information on ingredients**

- **Chemical characterization: Substances**
- **CAS No. Description**
  - 111-27-3 hexan-1-ol
- **Identification number(s)**
- **EC number:** 203-852-3
- **Index number:** 603-059-00-6
4 First-aid measures

· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· After inhalation: Supply fresh air; consult doctor in case of complaints.
· After skin contact: Immediately rinse with water.
· After eye contact: Rinse opened eye for several minutes under running water.
· After swallowing: Immediately call a 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.
· For safety reasons unsuitable extinguishing agents: Water with full jet
· 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

  · PAC-1:
    10 ppm
  · PAC-2:
    110 ppm
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.
    Protect against electrostatic charges.

- Conditions for safe storage, including any incompatibilities

- Storage:
  - Requirements to be met by storerooms and receptacles:
    No special requirements.
    Please refer to product specification for product storage requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep receptacle tightly sealed.
  - Specific end use(s) No further relevant information available.

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:

<table>
<thead>
<tr>
<th>CAS: 111-27-3 hexan-1-ol</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEL Long-term value: 40 ppm</td>
</tr>
<tr>
<td>eye irritation</td>
</tr>
</tbody>
</table>

- 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:
  Keep away from foodstuffs, beverages and feed.
  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
9 Physical and chemical properties

- **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 breakthrough time has to be determined by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**
  Tightly sealed goggles

<table>
<thead>
<tr>
<th>Physical and chemical properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td>Form: Liquid</td>
<td></td>
</tr>
<tr>
<td>Color: According to product specification</td>
<td></td>
</tr>
<tr>
<td>Odor: According to product specification</td>
<td></td>
</tr>
<tr>
<td>Odor threshold: Not determined.</td>
<td></td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Change in condition:</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>-46.7 °C (-52.1 °F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>157 °C (314.6 °F)</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>60 °C (140 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>290 °C (554 °F)</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: 1.2 Vol %</td>
<td></td>
</tr>
<tr>
<td>Upper: 7.7 Vol %</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure at 20 °C (68 °F):</td>
<td>0.93 hPa (0.7 mm Hg)</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>0.819 g/cm³ (6.83456 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 at 20 °C (68 °F):</td>
<td>6 g/l</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>
Trade name: Hexyl alcohol natural

- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Organic solvents: 100.0 %
- VOC content: 100.00 %
- Other information
  - Not determined.
  - 819.0 g/l / 6.83 lb/gal
  - No further relevant information available.

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: 720 mg/kg (rat)
      - Dermal LD50: 3,100 mg/kg (rabbit)
    - CAS: 111-27-3 hexan-1-ol
      - Oral LD50: 720 mg/kg (rat)
      - Dermal LD50: 3,100 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

- UN-Number
  - DOT, ADR, IMDG: UN2282
- UN proper shipping name
  - DOT: Hexanols
  - ADR: 2282 HEXANOLS
  - IMDG: HEXANOLS
- Transport hazard class(es)
  - DOT, IMDG, IATA
  - Class: 3 Flammable liquids
### Trade name: Hexyl alcohol natural

<table>
<thead>
<tr>
<th>· Label</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>· ADR</td>
<td></td>
</tr>
<tr>
<td>· Class</td>
<td>3 (F1) Flammable liquids</td>
</tr>
<tr>
<td>· Label</td>
<td>3</td>
</tr>
<tr>
<td>· Packing group</td>
<td></td>
</tr>
<tr>
<td>· DOT, ADR, IMDG, IATA</td>
<td>III</td>
</tr>
<tr>
<td>· Environmental hazards:</td>
<td></td>
</tr>
<tr>
<td>· Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>· Special precautions for user</td>
<td>Warning: Flammable liquids</td>
</tr>
<tr>
<td>· Danger code (Kemler):</td>
<td>30</td>
</tr>
<tr>
<td>· EMS Number:</td>
<td>F-E-S-D</td>
</tr>
<tr>
<td>· Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Transport/Additional information:</td>
<td></td>
</tr>
<tr>
<td>· DOT</td>
<td></td>
</tr>
</tbody>
</table>
| · Quantity limitations | On passenger aircraft/rail: 60 L  
On cargo aircraft only: 220 L |
| · ADR | |
| · Excepted quantities (EQ) | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 2282 HEXANOLS, 3, III |

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
  - Section 355 (extremely hazardous substances):  
    Substance is not listed.
  - Section 313 (Specific toxic chemical listings):  
    Substance is not listed.
  - TSCA (Toxic Substances Control Act):  
    Substance is listed.
### Proposition 65
- **Chemicals known to cause cancer:**
  - Substance is not listed.
- **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**
  - GHS02
  - GHS07

### Signal word
- **Warning**

### Hazard-determining components of labeling:
- hexan-1-ol

### Hazard statements
- H226 Flammable liquid and vapor.
- H302 Harmful if swallowed.

### Precautionary statements
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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. 3: Flammable liquids – Category 3
  - Acute Tox. 4: Acute toxicity – Category 4