1 Identification

- **Product identifier**
  - **Trade name**: 1-Penten-3-ol natural
  - **Product number**: 1458
  - **CAS Number**: 616-25-1
  - **EC number**: 210-472-1
- **Application of the substance / the mixture** Food flavorings
- **Details of the supplier of the safety data sheet**
  - **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)535-5053 (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.
- **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).

(Continued on page 2)
Safety Data Sheet
acc. to OSHA HCS

Trade name: 1-Penten-3-ol natural

· Hazard pictograms

GHS02

· Signal word Warning
· Hazard statements
H226 Flammable liquid and vapor.
· 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 = 0
  Fire = 3
  Reactivity = 0

· HMIS-ratings (scale 0 - 4)

  HEALTH 0 Health = 0
  FIRE 3 Fire = 3
  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
  616-25-1 pent-1-en-3-ol
· Identification number(s)
· EC number: 210-472-1

(Continued on page 3)
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.
· 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.
· 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:
    Substance is not listed.

  · PAC-2:
    Substance is not listed.
Trade name: 1-Penten-3-ol natural

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.
      · 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: 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.
## 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
  - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** 114-115 °C (237.2-239 °F)
- **Flash point:** 25 °C (77 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Not determined.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density at 20 °C (68 °F):** 0.835 g/cm³ (6.96808 lbs/gal)
  - **Relative density**
  - **Vapor density**
  - **Evaporation rate**
    - Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
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:
· 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.
Trade name: 1-Penten-3-ol natural

### Additional ecological information:

- **General notes:**
  - Water hazard class 1 (Self-assessment): 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, IATA UN1987

- **UN proper shipping name**
  - DOT Alcohols, n.o.s.
  - ADR 1987 Alcohols, n.o.s.
  - IMDG, IATA ALCOHOLS, N.O.S.

- **Transport hazard class(es)**
  - **DOT**
    - Class 3 Flammable liquids

  - **ADR, IMDG, IATA**
    - Class 3 Flammable liquids
### 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.
    - **TSCA new (21st Century Act) (Substances not listed)**
      - **CAS:** 616-25-1 pent-1-en-3-ol
    - **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 |

### Signal word
Warning

### Hazard statements
H226 Flammable liquid and vapor.

### 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.

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### 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
Trade name: 1-Penten-3-ol natural

· **Contact:**
  Product Safety Department
  productsafety@adv-bio.com

· **Date of preparation / last revision:** 08/24/2018 / -

· **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)
  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