1 Identification

- Product identifier
  - Trade name: 1-Octen-3-ol (USA) natural
  - Product number: 1633
  - CAS Number: 3391-86-4
  - EC number: 222-226-0
- 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
    sarfa@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
  - GHS07
  - Acute Tox. 4 H302 Harmful if swallowed.
  - Acute Tox. 4 H332 Harmful if inhaled.
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2A H319 Causes serious eye irritation.
  - STOT SE 3 H335 May cause respiratory 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-determining components of labeling:
  - oct-1-ene-3-ol

(Continued on page 2)
Trade name: 1-Octen-3-ol (USA) natural

· **Hazard statements**
  H227 Combustible liquid.
  H302+H332 Harmful if swallowed or if inhaled.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H335 May cause respiratory irritation.

· **Precautionary statements**
  P210 Keep away from flames and hot surfaces. — No smoking.
  P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P321 Specific treatment (see on this label).
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
  · **NFPA ratings (scale 0 - 4)**
    - Health = 2
    - Fire = 2
    - Reactivity = 0
  · **HMIS-ratings (scale 0 - 4)**
    - HEALTH 2 Health = 2
    - 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**
    - 3391-86-4 oct-1-ene-3-ol
  · **Identification number(s)**
    - EC number: 222-226-0

### 4 First-aid measures

· **Description of first aid measures**
  · **General information:**
    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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
    In case of unconsciousness place patient stably in side position for transportation.
  · **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
Trade name: 1-Octen-3-ol (USA) natural

(Continuation of page 2)

- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **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 or extinguishing powder. Fight larger fires with alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
  - No further relevant information available.
- **Advice for firefighters**
  - **Protective equipment:** Mouth respiratory protective device.
  - **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**
  - Not required.
- **Environmental precautions:**
  - Inform respective authorities in case of seepage into water course or sewage system.
  - 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.

## 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    - Ensure good ventilation/exhaustion at the workplace.
  - **Information about protection against explosions and fires:**
    - No special measures required.
- **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:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing.
    - Wash hands before breaks and at the end of work.
    - Avoid contact with the eyes and skin.
  - Breathing equipment:
    - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- 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:

![Tightly sealed goggles]

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Liquid
  - Color: Colorless to pale yellow
  - Odor: Mushroom
  - Odour threshold: Not determined.
- pH-value: Not determined.

(Continued on page 5)
Safety Data Sheet  
acc. to OSHA HCS

Printing date 06/25/2015  Reviewed on 06/25/2015

Trade name: 1-Octen-3-ol (USA) natural

<table>
<thead>
<tr>
<th>Change in condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range:</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Flash point:</td>
</tr>
<tr>
<td>61 °C (142 °F)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Ignition temperature:</td>
</tr>
<tr>
<td>245 °C (473 °F)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Decomposition temperature:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Auto igniting:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Danger of explosion:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Explosion limits:</td>
</tr>
<tr>
<td>Lower: 0.9 Vol %</td>
</tr>
<tr>
<td>Upper: 8 Vol %</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Vapor pressure at 50 °C (122 °F):</td>
</tr>
<tr>
<td>3 hPa (2 mm Hg)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
</tr>
<tr>
<td>0.837 g/cm³ (6.985 lbs/gal)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Relative density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Vapour density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Evaporation rate:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Solubility in / Miscibility with</td>
</tr>
<tr>
<td>Water:</td>
</tr>
<tr>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Viscosity:</td>
</tr>
<tr>
<td>Dynamic:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Organic solvents:</td>
</tr>
<tr>
<td>0.0 %</td>
</tr>
<tr>
<td>Other information:</td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity
- 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:
      | Substance            | LD50 (rat) | LC50 (rat) |
      |----------------------|------------|------------|
      | 3391-86-4 oct-1-ene-3-ol | 340 mg/kg |             |
      | Oral                 | 340 mg/kg  |             |
      | Dermal               | 3300 mg/kg | (rabbit)   |
  · Primary irritant effect:
    · on the skin: Irritant to skin and mucous membranes.
    · on the eye: 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.
  ·Ecotoxicological effects:
    ·Remark: Very toxic for fish
  ·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.
      Also poisonous for fish and plankton in water bodies.
      Very toxic for aquatic organisms.
    ·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>UN-Number</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>Environmentally hazardous substances, liquid, n.o.s. (oct-1-ene-3-ol)</td>
</tr>
<tr>
<td>ADR</td>
<td>3082 Environmentally hazardous substances, liquid, n.o.s. (oct-1-ene-3-ol)</td>
</tr>
<tr>
<td>IMDG</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (oct-1-ene-3-ol)</td>
</tr>
<tr>
<td>IATA</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (oct-1-ene-3-ol)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>DOT, ADR, IMDG, IATA</td>
</tr>
<tr>
<td>Class</td>
<td>9 Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, ADR, IMDG, IATA</td>
</tr>
<tr>
<td>Class</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>Yes</td>
</tr>
<tr>
<td>Special marking (ADR):</td>
<td>Symbol (fish and tree)</td>
</tr>
<tr>
<td>Special marking (IATA):</td>
<td>Symbol (fish and tree)</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Warning: Miscellaneous dangerous substances and articles</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>DOT</td>
</tr>
</tbody>
</table>
Trade name: 1-Octen-3-ol (USA) natural

- **Remarks:** Special marking with the symbol (fish and tree).
- **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":** UN3082, Environmentally hazardous substances, liquid, n.o.s. (oct-1-ene-3-ol), 9, 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**
    - The substance is classified and labeled according to the Globally Harmonized System (GHS). (Continued on page 9)
Hazard pictograms
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.

GHS07

Signal word Warning

Hazard-determining components of labeling:
oct-1-ene-3-ol

Hazard statements
H227 Combustible liquid.
H302+H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements
P210 Keep away from flames and hot surfaces. – No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P405 Store locked up.
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: Sidney Arfa
Date of preparation / last revision 06/25/2015 / -

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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 4: Flammable liquids, Hazard Category 4
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3