Safety Data Sheet  
acc. to OSHA HCS

1 Identification

· Product identifier

· Trade name: Styrallyl Alcohol natural

· Product number: 1685

· CAS Number: 98-85-1

· EC number: 202-707-1

· Application of the substance / the mixture: Food flavorings

· Details of the supplier of the safety data sheet

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· 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

(Continued on page 2)
· 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

  GHS05  GHS07

· Signal word
  Danger

· Hazard-determining components of labeling:
  Styrallyl Alcohol

· Hazard statements
  H227 Combustible liquid.
  H302 Harmful if swallowed.
  H315 Causes skin irritation.
  H318 Causes serious eye damage.

· Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P310 Immediately call a poison center/doctor.
  P321 Specific treatment (see on this label).
  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 = 3
  Fire = 2
  Reactivity = 0

· HMIS-ratings (scale 0 - 4)

  Health = *3
  Fire = 2
  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
  98-85-1 Styrallyl Alcohol
- Identification number(s)
  - EC number: 202-707-1

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. Then 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, 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:
  Dilute with plenty of water.
  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).
  Use neutralizing agent.
Trade name: Styrallyl Alcohol natural

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.
PAC-3: Substance is not listed.

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.

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. Avoid contact with the eyes and skin.
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 breakthrough 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: 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: 204-205 °C (399.2-401 °F) (@ 745 mm Hg)

Flash point: 85 °C (185 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 480 °C (896 °F)

Decomposition temperature: Not determined.

Auto igniting: Not determined.

Danger of explosion: Not determined.
Trade name: Styrallyl Alcohol natural

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 1.015 g/cm³ (8.47017 lbs/gal)
  - Relative density: Not determined.
  - Vapor density: Not determined.
  - Evaporation rate: Not determined.

- **Solubility in / Miscibility with Water:** Very slightly soluble

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
  - VOC content: 0.00 %
  - 0.0 g/l / 0.00 lb/gl

- **Other information** 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:**
    - **ATE (Acute Toxicity Estimate)**
      - Oral LD₅₀ 400 mg/kg (rat)
    - CAS: 98-85-1 Styrallyl Alcohol
      - Oral LD₅₀ 558 mg/kg (mouse)
      - 400 mg/kg (rat)

  - **Primary irritant effect:**
    - **on the skin:** No irritant effect.

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- on the eye: Strong irritant with the danger of severe eye injury.
- 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.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- 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.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.
## 14 Transport information

| · UN-Number | UN2937 |
| · DOT, ADR, IMDG, IATA | |

| · UN proper shipping name | |
| · DOT | alpha-Methylbenzyl alcohol, liquid |
| · ADR | 2937 alpha-Methylbenzyl alcohol, liquid |
| · IMDG, IATA | alpha-METHYLBENZYL ALCOHOL, LIQUID |

| · Transport hazard class(es) |
| · DOT |  |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |

| · ADR |  |
| · Class | 6.1 (T1) Toxic substances |
| · Label | 6.1 |

| · IMDG, IATA |  |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |

| · Packing group |  |
| · DOT, ADR, IMDG, IATA | III |

| · Environmental hazards: | Not applicable. |

| · Special precautions for user | Warning: Toxic substances |
| · Danger code (Kemler): | 60 |
| · EMS Number: | 6.1-02 |
| · Stowage Category | A |

| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
### Trade name: Styrraly Alcohol natural

<table>
<thead>
<tr>
<th>Transport/Additional information:</th>
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</thead>
<tbody>
<tr>
<td>DOT</td>
<td></td>
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<tr>
<td>Quantity limitations</td>
<td>On passenger aircraft/rail: 60 L  On cargo aircraft only: 220 L</td>
</tr>
</tbody>
</table>

| ADR                              |  |
| Exempted quantities (EQ)         | Code: E1  Maximum net quantity per inner packaging: 30 ml  Maximum net quantity per outer packaging: 1000 ml |

| IMDG                              |  |
| Limited quantities (EQ)          | 5L  Code: E1  Maximum net quantity per inner packaging: 30 ml  Maximum net quantity per outer packaging: 1000 ml |
| Exempted quantities (EQ)         |  |

| UN "Model Regulation":          | UN 2937 ALPHA-METHYLBENZYL ALCOHOL, LIQUID, 6.1, 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.
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- TLV (Threshold Limit Value established by ACGIH)
  Substance is not listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  Substance is not listed.

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  The substance is classified and labeled according to the Globally Harmonized System (GHS).
  Hazard pictograms
  
  GHS05  GHS07

- Signal word Danger

- Hazard-determining components of labeling:
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  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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  P310 Immediately call a poison center/doctor.
  P321 Specific treatment (see on this label).
  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: Sidney Arfa
- Date of preparation / last revision 04/03/2018 / -

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
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
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<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association (USA)</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System (USA)</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds (USA, EU)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>Flam. Liq. 4</td>
<td>Flammable liquids – Category 4</td>
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<tr>
<td>Acute Tox. 4</td>
<td>Acute toxicity – Category 4</td>
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<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation – Category 2</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation – Category 1</td>
</tr>
</tbody>
</table>