1 Identification

- Product identifier
- Trade name: Isoamyl acetate natural
- Product number: 1150
- CAS Number: 123-92-2
- EC number: 204-662-3
- Index number: 607-130-00-2
- Application of the substance / the mixture: Food flavorings

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).
Trade name: Isoamyl acetate natural

· Hazard pictograms

![GHS02 Image]

· 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)
  ![NFPA Ratings Image]
  Health = 0
  Fire = 3
  Reactivity = 0
· HMIS-ratings (scale 0 - 4)
  ![HMIS Ratings Image]
  Health = 0
  Fire = 3
  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
  123-92-2 isopentyl acetate
· Identification number(s)
· EC number: 204-662-3
· Index number: 607-130-00-2

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.
48.1.23

· 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:
    100 ppm
  · PAC-2:
    500 ppm
  · PAC-3:
    3000 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.
Trade name: Isoamyl acetate natural

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:
    
    | CAS: 123-92-2 isopentyl acetate |
    |-------------------------------|
    | PEL | Long-term value: 525 mg/m³, 100 ppm |
    | REL | Long-term value: 525 mg/m³, 100 ppm |
    | TLV | Short-term value: 532 mg/m³, 100 ppm |
    |     | Long-term value: 266 mg/m³, 50 ppm |

- 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.
## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### 9.1.1 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: -78.5 °C (-109.3 °F)
  - Boiling point/Boiling range: 142 °C (287.6 °F)

- **Flash point:**
  - 25 °C (77 °F)

- **Flammability (solid, gaseous):**
  - Not applicable.

- **Ignition temperature:**
  - 380 °C (716 °F)

- **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: 1 Vol %
  - Upper: 10 Vol %

- **Vapor pressure at 20 °C (68 °F):**
  - 4.4 hPa (3.3 mm Hg)

- **Density at 20 °C (68 °F):**
  - 0.868 g/cm³ (7.24346 lbs/gal)

- **Relative density**
  - Not determined.

- **Vapor density**
  - Not determined.

- **Evaporation rate**
  - Not determined.

- **Solubility in / Miscibility with**
  - Water at 20 °C (68 °F): 0.8 g/l

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

- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
  - Organic solvents: 100.0 %
  - VOC content: 100.00 %
  - 868.0 g/l / 7.24 lb/gal
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:
      - CAS: 123-92-2 isopentyl acetate
      - Oral LD50 16,000 mg/kg (rat)
    - 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.
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 UN1104
- UN proper shipping name
  - DOT Amyl acetates
  - ADR 1104 AMYL ACETATES
  - IMDG, IATA AMYL ACETATES
- Transport hazard class(es)
  - DOT, IMDG, IATA
    - Class 3 Flammable liquids
    - Label 3
  - ADR
    - Class 3 (F1) Flammable liquids
    - Label 3
- Packing group
  - DOT, ADR, IMDG, IATA III
- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user
  - Warning: Flammable liquids
  - Danger code (Kemler): 30
  - EMS Number: F-E,S-D
Trade name: Isoamyl acetate natural

<table>
<thead>
<tr>
<th>Stowage Category</th>
<th>A</th>
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<tbody>
<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>
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<tr>
<td>DOT</td>
<td></td>
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</tbody>
</table>
| Quantity limitations | On passenger aircraft/rail: 60 L  
On cargo aircraft only: 220 L |
| 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 (LQ) | 5L  
Code: E1 |
| Exempted quantities (EQ) |  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |
| UN "Model Regulation": | UN 1104 AMYL ACETATES, 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.
Trade name: Isoamyl acetate natural

- 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.

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
<table>
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<th>TLV: Threshold Limit Value</th>
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<td>Flam. Liq. 3: Flammable liquids – Category 3</td>
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Trade name: Isoamyl acetate natural