1 Identification

- Product identifier
  - Trade name: 2-Methyl Heptenone natural
  - Product number: 1377
  - CAS Number: 110-93-0
  - EC number: 203-816-7
- 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).
- Hazard pictograms
  - GHS02
- Signal word: Warning

(Continued on page 2)
Trade name: 2-Methyl Heptenone natural

- **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 = 2
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - HEALTH: Health = 1
    - FIRE: Fire = 2
    - REACTIVITY: 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
  - 110-93-0 6-Methyl-5-hepten-2-one
- Identification number(s)
- EC number: 203-816-7

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:
    Substances is not listed.

  · PAC-2:
    Substances is not listed.

  · PAC-3:
    Substances 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.
  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.
Trade name: 2-Methyl Heptenone natural

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.

- 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: According to product specification
      - Odor: According to product specification
      - Odor threshold: Not determined.
  - pH-value: 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:
  - LD/LC50 values that are relevant for classification:
    - ATE (Acute Toxicity Estimate)
      - Oral LD50 3,500 mg/kg (rat)
48.1.23

CAS: 110-93-0 6-Methyl-5-hepten-2-one

Oral LD50 3,500 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.
    - 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
  UN1993

- UN proper shipping name
  DOT
  Flammable liquids, n.o.s. (6-Methyl-5-hepten-2-one)
  ADR
  1993 FLAMMABLE LIQUID, N.O.S. (6-Methyl-5-hepten-2-one)
  IMDG, IATA
  FLAMMABLE LIQUID, N.O.S. (6-Methyl-5-hepten-2-one)

- 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
  Danger code (Kemler):
  Warning: Flammable liquids
  30
  EMS Number:
  F-E,S-E
  Stowage Category
  A

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  Not applicable.

- Transport/Additional information:
  DOT
  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
### 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).

(Continued on page 9)
### 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.

### 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
- **EinNCS:** 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