1 Identification

· Product identifier

· Trade name: Carvacrol natural

· Product number: 1554

· CAS Number: 499-75-2

· EC number: 207-889-6

· Application of the substance / the mixture: Food flavorings

2 Hazard(s) identification

· Classification of the substance or mixture

  GHS07

  Acute Tox. 4  H302  Harmful if swallowed.

· Label elements

· 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:
carvacrol

Hazard statements
H302 Harmful if swallowed.

Precautionary statements
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)

1 1 0
Health = 1  Fire = 1  Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH 1
Fire 1
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
499-75-2 carvacrol
Identification number(s)
EC number: 207-889-6

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; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: Immediately call a doctor.

Information for doctor:
Most important symptoms and effects, both acute and delayed
No further relevant information available.
5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  - CO2, powder or alcoholresistant foam.
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - Use fire fighting measures that suit the environment.
- 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: Not required.
- 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.
- 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: No special measures required.
- 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: None.
Trade name: Carvacrol natural

- 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.
  Wash hands before breaks and at the end of work.
- Breathing equipment: Not required.
- Protection of hands:
  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: Goggles recommended during refilling.

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: 3 °C (37.4 °F)
  Boiling point/Boiling range: 237 °C (458.6 °F)
- Flash point: 106 °C (222.8 °F)
- Flammability (solid, gaseous): Not applicable.
- Decomposition temperature: Not determined.
- Auto igniting: Not determined.
Safety Data Sheet
acc. to OSHA HCS

Printing date 02/11/2019
Reviewed on 02/08/2019

Trade name: Carvacrol natural

- Danger of explosion: Product does not present an explosion hazard.

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

- Vapor pressure: Not determined.

- Density at 20 °C (68 °F): 0.978 g/cm³ (8.16141 lbs/gal)
  - Relative density: Not determined.
  - Vapor density: Not determined.
  - Evaporation rate: Not determined.

- Solubility in / Miscibility with Water: Not miscible or difficult to mix.

- 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/gal

- 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:
  - LD/LC50 values that are relevant for classification:
    - ATE (Acute Toxicity Estimate)
      Oral LD₅₀ 810 mg/kg (rat)

    - CAS: 499-75-2 carvacrol
      Oral LD₅₀ 810 mg/kg (rat)

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
Trade name: Carvacrol natural

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 (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: UN3265
- UN proper shipping name
  - DOT: Corrosive liquid, acidic, organic, n.o.s. (carvacrol)
  - ADR: 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (carvacrol)
Trade name: Carvacrol natural

<table>
<thead>
<tr>
<th>IMDG, IATA</th>
<th>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (carvacrol)</th>
</tr>
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- **Transport hazard class(es)**
  - DOT, ADR, IMDG, IATA

- **Class**
  - 8 Corrosive substances
- **Label**
  - 8

- **Packing group**
  - DOT, ADR, IMDG, IATA
  - III

- **Environmental hazards:**
  - Marine pollutant: No

- **Special precautions for user**
  - Warning: Corrosive substances
  - Danger code (Kemler): 60
  - EMS Number: F-A,S-A
  - Stowage Category: A
  - Stowage Code: SW2 Clear of living quarters.

- **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

  - 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":**
  - UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CARVACROL), 8, 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.
<table>
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<tr>
<td>Carcinogenic categories</td>
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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
- **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
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Acute Tox. 4: Acute toxicity – Category 4