1 Identification

- **Product identifier**
- **Trade name**: Maple Furanone 1% PG natural
- **Product number**: 1295
- **Application of the substance / the mixture**: Food flavorings

2 Hazard(s) identification

- **Classification of the substance or mixture**: The product is not classified, according to the Globally Harmonized System (GHS).

- **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.
- **Hazard pictograms**: Not Applicable
- **Signal word**: Not Applicable
- **Hazard statements**: Not Applicable
- **Classification system**:
- **NFPA ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 1
  - Reactivity = 0

(Continued on page 2)
Trade name: Maple Furanone 1% PG natural

· HMIS-ratings (scale 0 - 4)
  - Health = 0
  - Fire = 1
  - Reactivity = 0

· Other hazards
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

3 Composition/information on ingredients

· Description: Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>CAS: 57-55-6</th>
<th>Propylene glycol</th>
<th>99.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 698-10-2</td>
<td>5-Ethyl-3-hydroxy-4-methyl-2(5H)-furanone</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

· Dangerous components:

4 First-aid measures

· Description of first aid measures
  - General information: No special measures required.
  - 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: 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, 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: Dilute with plenty of water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- 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:
  CAS: 57-55-6 Propylene glycol
  30 mg/m³

- PAC-2:
  CAS: 57-55-6 Propylene glycol
  1,300 mg/m³

- PAC-3:
  CAS: 57-55-6 Propylene glycol
  7,900 mg/m³

7 Handling and storage

- Handling:
- Precautions for safe handling: No special measures required.
- 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: None.
- 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:
    The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
    At this time, the remaining constituent has no known exposure limits.

CAS: 57-55-6 Propylene glycol

WEEL Long-term value: 10 mg/m³
47.0.11

· 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:
The usual precautionary measures for handling chemicals should be followed.

· 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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: -68 °C (-90.4 °F)
  - Boiling point/Boiling range: 187 °C (368.6 °F)

· Flash point: 107 °C (224.6 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 371 °C (699.8 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.
Trade name: Maple Furanone 1% PG natural

- Explosion limits:
  - Lower: 2.6 Vol %
  - Upper: 12.6 Vol %

- Vapor pressure at 20 °C (68 °F): 0.11 hPa (0.1 mm Hg)

- Density at 20 °C (68 °F):
  - 1.04 g/cm³ (8.6788 lbs/gal)
  - Relative density: Not determined.
  - Vapor density: Not determined.
  - Evaporation rate: Not determined.

- Solubility in / Miscibility with Water: Fully miscible.

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

- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.

- Solvent content:
  - Organic solvents: 99.0 %
  - VOC content: 99.00 %

- 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:

    | Test | Value |
    |------|-------|
    | Oral LD50 | 133,000 mg/kg (rat) |

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
Trade name: Maple Furanone 1% PG natural

- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
  The product is not subject to classification according to internally approved calculation methods for preparations:
  When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
    None of the ingredients is listed.
  - **NTP (National Toxicology Program)**
    None of the ingredients is listed.
  - **OSHA-Ca (Occupational Safety & Health Administration)**
    None of the ingredients is 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:** Generally not hazardous for water
- **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:** Smaller quantities can be disposed of with household waste.
- **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**
- **DOT, ADR, ADN, IMDG, IATA** Not Regulated
### UN proper shipping name
- DOT, ADR, ADN, IMDG, IATA: Not Regulated

### Transport hazard class(es)
- DOT, ADR, ADN, IMDG, IATA: Not Regulated

### Class
- DOT, ADR, ADN, IMDG, IATA: Not Regulated

### Packing group
- DOT, ADR, IMDG, IATA: Not Regulated

### Environmental hazards:
- Marine pollutant: No

### Special precautions for user
- Not applicable.

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

### Transport/Additional information:
- Not dangerous according to the above specifications.

### UN "Model Regulation"
- Not Regulated

### 15 Regulatory information

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

- **Sara**
  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**
  - All ingredients are listed.

- **TSCA new (21st Century Act) (Substances not listed)**
  - CAS: 698-10-2 5-Ethyl-3-hydroxy-4-methyl-2(5H)-furanone

#### Proposition 65

- **Chemicals known to cause cancer:**
  - None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**
  - None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**
  - None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**
  - None of the ingredients is listed.
Trade name: Maple Furanone 1% PG natural

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    - None of the ingredients is listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is 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.
  - **Hazard pictograms** Not Applicable
  - **Signal word** Not Applicable
  - **Hazard statements** Not Applicable
  - **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.

- **Relevant phrases**
  - H302 Harmful if swallowed.

- **Department issuing SDS**: Product Safety Department
- **Contact**: Product Safety Department productsafety@adv-bio.com
- **Date of preparation / last revision** 08/24/2018 / -

- **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
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified 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