## 1 Identification

- **Product identifier**
  - **Trade name:** 5-Methyl Furfural synthetic
  - **Product number:** 4031
  - **CAS Number:** 620-02-0
  - **EC number:** 210-622-6
- **Application of the substance / the mixture** Food flavorings
- **Details of the supplier of the safety data sheet**
  - **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

## 2 Hazard(s) identification

- **Classification of the substance or mixture**
  - Flam. Liq. 4 H227 Combustible liquid.
- **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** Not Applicable
- **Signal word** Warning
- **Hazard statements**
  - H227 Combustible liquid.
- **Precautionary statements**
  - P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  - P280 Wear protective gloves / eye protection / face protection.
  - P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
4. Description of first aid measures
   - 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, 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.
Safety Data Sheet
acc. to OSHA HCS

Trade name: 5-Methyl Furfural synthetic

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: Prevent seepage into sewage system, workpits and cellars.
- 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: 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: 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: 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: Undetermined.
  · Boiling point/Boiling range: 187 °C (368.6 °F)

· Flash point: 72 °C (161.6 °F)

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not determined.
### 46.0.2

- **Auto igniting:** Not determined.
- **Danger of explosion:** Not determined.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density at 20 °C (68 °F):** 1.107 g/cm³ (9.23792 lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water at 20 °C (68 °F):** 33.3 g/l
- **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:**
  - **LD/LC50 values that are relevant for classification:**
    - **ATE (Acute Toxicity Estimate)**
      - Oral LD50 2,200 mg/kg (rat)
    - **CAS: 620-02-0 5-methylfurfural**
      - Oral LD50 2,200 mg/kg (rat)
### 46.0.2

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

<table>
<thead>
<tr>
<th>Carcinogenic categories</th>
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<tbody>
<tr>
<td>IARC (International Agency for Research on Cancer)</td>
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<tr>
<td>Substance is not listed.</td>
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<tr>
<td>NTP (National Toxicology Program)</td>
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<tr>
<td>Substance is not listed.</td>
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<tr>
<td>OSHA-Ca (Occupational Safety &amp; Health Administration)</td>
</tr>
<tr>
<td>Substance is not listed.</td>
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</tbody>
</table>

### 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:**
    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, ADN, IMDG, IATA** Not Regulated
Trade name: 5-Methyl Furfural synthetic

<table>
<thead>
<tr>
<th>·</th>
<th>UN proper shipping name</th>
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<tbody>
<tr>
<td>·</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
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<td>Not Regulated</td>
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<tr>
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<th>Transport hazard class(es)</th>
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<tr>
<td>·</td>
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<th>Packing group</th>
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<tr>
<td>·</td>
<td>DOT, ADR, IMDG, IATA</td>
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<td>·</td>
<td>Not Regulated</td>
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<thead>
<tr>
<th>·</th>
<th>Environmental hazards:</th>
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<tr>
<td>·</td>
<td>Marine pollutant:</td>
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<td>·</td>
<td>No</td>
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<tr>
<th>·</th>
<th>Special precautions for user</th>
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<td>·</td>
<td>Not applicable.</td>
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<tr>
<th>·</th>
<th>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</th>
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<tr>
<td>·</td>
<td>Not applicable.</td>
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<th>Transport/Additional information:</th>
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<tr>
<td>·</td>
<td>Not dangerous according to the above specifications.</td>
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<tr>
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<th>UN &quot;Model Regulation&quot;:</th>
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<tr>
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<td>Not Regulated</td>
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### 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.

  - TSCA new (21st Century Act) (Substances not 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.
Trade name: 5-Methyl Furfural synthetic

- **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).

- **Hazard pictograms**  
  Not Applicable

- **Signal word**  
  Warning

- **Hazard statements**  
  H227 Combustible liquid.

- **Precautionary statements**  
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
  P280 Wear protective gloves / eye protection / face protection.  
  P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.  
  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
  - 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

(Continued on page 9)
Trade name: 5-Methyl Furfural synthetic

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4