1 Identification

· Product identifier
· Trade name: Pentyl Furan natural
· Product number: 1570
· CAS Number: 3777-69-3
· EC number: 223-234-7
· Application of the substance / the mixture: Flavoring Ingredients

2 Hazard(s) identification

· Classification of the substance or mixture

- GHS02 Flame
  Flammable Liquids 3 H226 Flammable liquid and vapor.

- GHS06 Skull and crossbones
  Acute Toxicity - Oral 3 H301 Toxic if swallowed.

- GHS05 Corrosion
  Eye Damage 1 H318 Causes serious eye damage.

· 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).
# Safety Data Sheet

**Trade name:** Pentyl Furan natural

## · Hazard pictograms

- GHS02
- GHS05
- GHS06

## · Signal word

Danger

## · Hazard-determining components of labeling:

- 2-Pentyl Furan

## · Hazard statements

- **H226** Flammable liquid and vapor.
- **H301** Toxic if swallowed.
- **H301** Causes serious eye damage.

## · Precautionary statements

- **P210** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **P301+P310** If swallowed: Immediately call a poison center/doctor.
- **P321** Specific treatment (see on this label).
- **P330** Rinse mouth.
- **P303+P351+P338** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **P305+P351+P338** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P405** Store locked up.
- **P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

## · Classification system:

### · NFPA ratings (scale 0 - 4)

- **Health** = 3
- **Fire** = 2
- **Reactivity** = 0

### · HMIS-ratings (scale 0 - 4)

- **HEALTH**
  - Health = *3
- **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**
- **CAS:** 3777-69-3 2-Pentyl Furan

(Continued on page 3)
## 4 First-aid measures

- **Identification number(s)**
  - EC number: 223-234-7

### General information:
- Immediately remove any clothing soiled by the product.
- In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.

### 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:** 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).
  - Use neutralizing agent.
  - Dispose contaminated material as waste according to section 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.
Trade name: Pentyl Furan natural

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 the product specification and/or Certificate of Analysis 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 section 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.
    - Immediately remove all soiled and contaminated clothing.
    - Wash hands before breaks and at the end of work.
    - Avoid contact with the eyes.
    - Avoid contact with the eyes and skin.
  - 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.
Trade name: Pentyl Furan natural

- **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.

- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 64-66 °C (147.2-150.8 °F)

- **Flash point:** 46 °C (114.8 °F)

- **Flammability (solid, gaseous):** Flammable.

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** Not determined.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 0.88 g/cm³ (7.3436 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.
Trade name: Pentyl Furan natural

- 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 100 mg/kg
    - CAS: 3777-69-3 2-Pentyl Furan
      Oral LD50 100 mg/kg (ATE)
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Strong irritant with the danger of severe eye injury.
  - 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.

(Continued on page 7)
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, IMDG, IATA: UN1993

- **UN proper shipping name**
  - DOT: Flammable liquids, n.o.s. (2-Pentyl Furan)
  - IMDG, IATA: FLAMMABLE LIQUID, N.O.S. (2-Pentyl Furan)

- **Transport hazard class(es)**
  - DOT
    - **Class:** 3 Flammable liquids
    - **Label:** 3
  - IMDG, IATA
    - **Class:** 3 Flammable liquids
    - **Label:** 3

  - **Packing group**
    - DOT, IMDG, IATA: III
### 15 Regulatory information

<table>
<thead>
<tr>
<th>Section 355 (extremely hazardous substances):</th>
<th>Substance is not listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>TSCA (Toxic Substances Control Act):</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>Hazardous Air Pollutants</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Proposition 65</td>
<td></td>
</tr>
<tr>
<td>Chemicals known to cause cancer:</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity for females:</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity for males:</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Chemicals known to cause developmental toxicity:</td>
<td>Substance is not listed.</td>
</tr>
</tbody>
</table>
Trade name: Pentyl Furan natural

- Carcinogenic categories

- EPA (Environmental Protection Agency)
  Substance is not listed.

- TLV (Threshold Limit Value)
  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

  ![GHS02](image1)  ![GHS05](image2)  ![GHS06](image3)

- Signal word
  Danger

- Hazard-determining components of labeling:
  2-Pentyl Furan

- Hazard statements
  H226 Flammable liquid and vapor.
  H301 Toxic if swallowed.
  H318 Causes serious eye damage.

- Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  P301+P310 If swallowed: Immediately call a poison center/doctor.
  P321 Specific treatment (see on this label).
  P330 Rinse mouth.
  P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P405 Store locked up.
  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 01/16/2024
### Abbreviations and acronyms:

- **ADR**: Accord relatif au transport international 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
- **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
- **Flammable Liquids 3**: Flammable liquids – Category 3
- **Acute Toxicity - Oral 3**: Acute toxicity – Category 3
- **Eye Damage 1**: Serious eye damage/eye irritation – Category 1