SAFETY DATA SHEET
ISH Pepsin Kit, Part Number G9411A

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Product name: ISH Pepsin Kit, Part Number G9411A
Part no. (chemical kit): G9411A
Part no.: Pepsin 5190-7748
Pepsin Diluent (10X) 5190-7749

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.
Pepsin 48 ml (2 mg/ml)
Pepsin Diluent (10X) 48 ml

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000
e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number
Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition: Pepsin Mixture
Pepsin Diluent (10X) Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Pepsin
H226 FLAMMABLE LIQUIDS - Category 3
H317 SKIN SENSITISATION - Category 1

Pepsin Diluent (10X)
H225 FLAMMABLE LIQUIDS - Category 2
H315 SKIN CORROSION/IRRITATION - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
H317 SKIN SENSITISATION - Category 1
H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

Ingredients of unknown toxicity: Pepsin Diluent (10X)
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

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Ingredients of unknown ecotoxicity: Pepsin Diluent (10X) Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 7.9%

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms:
- Pepsin
- Pepsin Diluent (10X)

Signal word:
- Pepsin: Warning
- Pepsin Diluent (10X): Danger

Hazard statements:
- Pepsin
  - H226 - Flammable liquid and vapour.
  - H317 - May cause an allergic skin reaction.
- Pepsin Diluent (10X)
  - H225 - Highly flammable liquid and vapour.
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H317 - May cause an allergic skin reaction.
  - H336 - May cause drowsiness or dizziness.
  - H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention:
- Pepsin
  - P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Pepsin Diluent (10X)
  - P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response:
- Pepsin
  - P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- Pepsin Diluent (10X)
  - P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage:
- Pepsin
  - Not applicable.
- Pepsin Diluent (10X)
  - P405 - Store locked up.

Disposal:
- Pepsin
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Pepsin Diluent (10X)
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients:
- Pepsin
  - reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)
- Pepsin Diluent (10X)
  - propan-2-ol
  - reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Supplemental label elements:
- Pepsin
  - Not applicable.
- Pepsin Diluent (10X)
  - Not applicable.

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### SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

- Pepsin: Not applicable.
- Pepsin Diluent (10X): Not applicable.

**Special packaging requirements**

- Tactile warning of danger: Pepsin: Not applicable.
- Pepsin Diluent (10X): Not applicable.

**2.3 Other hazards**

- Other hazards which do not result in classification:
  - Pepsin: None known.
  - Pepsin Diluent (10X): None known.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 CLP</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0</td>
<td>≤0.3</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335</td>
<td>[1]</td>
</tr>
<tr>
<td>pepsin A</td>
<td>EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0</td>
<td>≤0.3</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335</td>
<td>[1]</td>
</tr>
<tr>
<td>reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)</td>
<td>EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0</td>
<td>&lt;0.1</td>
<td>Acute Tox. 3, H301 Acute Tox. 3, H311</td>
<td>[1]</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0</td>
<td>≤10</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335</td>
<td>[1]</td>
</tr>
<tr>
<td>reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)</td>
<td>EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0</td>
<td>≤1</td>
<td>Acute Tox. 3, H301 Acute Tox. 3, H311</td>
<td>[1]</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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SECTION 3: Composition/information on ingredients

- Substance classified with a health or environmental hazard
- Substance with a workplace exposure limit
- Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- Substance of equivalent concern
- Additional disclosure due to company policy

SECTION 4: First aid measures

4.1 Description of first aid measures

**Eye contact**

- **Pepsin**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- **Pepsin Diluent (10X)**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**

- **Pepsin**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- **Pepsin Diluent (10X)**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact**

- **Pepsin**: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- **Pepsin Diluent (10X)**: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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**SECTION 4: First aid measures**

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>Protection of first-aiders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pepsin</strong></td>
<td><strong>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.</strong></td>
</tr>
<tr>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td><strong>No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.</strong></td>
</tr>
</tbody>
</table>

4.2 **Most important symptoms and effects, both acute and delayed**

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pepsin</strong></td>
<td><strong>Pepsin</strong></td>
<td><strong>Pepsin</strong></td>
<td><strong>Pepsin</strong></td>
</tr>
<tr>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td><strong>Pepsin Diluent (10X)</strong></td>
</tr>
</tbody>
</table>

- **Eye contact**
  - **Pepsin**
    - No known significant effects or critical hazards.
    - Causes serious eye irritation.
  - **Pepsin Diluent (10X)**
    - No known significant effects or critical hazards.
    - Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

- **Inhalation**
  - **Pepsin**
    - No known significant effects or critical hazards.
  - **Pepsin Diluent (10X)**
    - May cause an allergic skin reaction.
    - Causes skin irritation. May cause an allergic skin reaction.

- **Skin contact**
  - **Pepsin**
    - May cause an allergic skin reaction.
    - Causes skin irritation. May cause an allergic skin reaction.
  - **Pepsin Diluent (10X)**
    - No known significant effects or critical hazards.
    - Can cause central nervous system (CNS) depression.

- **Ingestion**
  - **Pepsin**
    - No known significant effects or critical hazards.
  - **Pepsin Diluent (10X)**
    - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- **Eye contact**
  - **Pepsin**
    - No specific data.
    - Adverse symptoms may include the following: pain or irritation watering redness
  - **Pepsin Diluent (10X)**
    - No specific data.
    - Adverse symptoms may include the following: pain or irritation watering redness

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SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Pepsin</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Adverse symptoms may include the following: nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Pepsin</th>
<th>Adverse symptoms may include the following: irritation, redness.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Adverse symptoms may include the following: irritation, redness.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>Pepsin</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

4.3 Indication of any immediate medical attention and special treatment needed

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>Pepsin</th>
<th>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>Pepsin</th>
<th>No specific treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>

SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Pepsin</th>
<th>Use dry chemical, CO₂, water spray (fog) or foam.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Use dry chemical, CO₂, water spray (fog) or foam.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsuitable extinguishing media</th>
<th>Pepsin</th>
<th>Do not use water jet.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Do not use water jet.</td>
</tr>
</tbody>
</table>

5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Hazards from the substance or mixture</th>
<th>Pepsin</th>
<th>Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous combustion products</th>
<th>Pepsin</th>
<th>Decomposition products may include the following materials: carbon dioxide, carbon monoxide.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds.</td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters
SECTION 5: Firefighting measures

Special precautions for fire-fighters:
- Pepsin: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Pepsin Diluent (10X): Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters:
- Pepsin: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
- Pepsin Diluent (10X): Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- Pepsin: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- Pepsin Diluent (10X): No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:
- Pepsin: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Pepsin Diluent (10X): If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions:
- Pepsin: Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Pepsin Diluent (10X): Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

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### SECTION 6: Accidental release measures

May be harmful to the environment if released in large quantities.

#### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up:**

- **Pepsin**
  - Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor.

- **Pepsin Diluent (10X)**
  - Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor.

#### 6.4 Reference to other sections

- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

**Protective measures:**

- **Pepsin**
  - Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

- **Pepsin Diluent (10X)**
  - Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

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SECTION 7: Handling and storage

Advice on general occupational hygiene:

Pepsin

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 10 for additional information on hygiene measures.

Pepsin Diluent (10X)

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Pepsin

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from alkalis. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Pepsin Diluent (10X)

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from alkalis. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Danger criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Notification and MAPP threshold</th>
<th>Safety report threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin P5c</td>
<td>5000</td>
<td>50000</td>
</tr>
<tr>
<td>Pepsin Diluent (10X) P5c</td>
<td>5000</td>
<td>50000</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

Recommendations:

Pepsin Industrial applications, Professional applications.

Pepsin Diluent (10X) Industrial applications, Professional applications.

Industrial sector specific solutions:

Pepsin Not applicable.

Pepsin Diluent (10X) Not applicable.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011).</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>STEL: 1250 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 999 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm 8 hours.</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011).</td>
</tr>
<tr>
<td>Propan-2-ol</td>
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</tr>
</tbody>
</table>

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

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SECTION 8: Exposure controls/personal protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Pepsin</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>2</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Pepsin</td>
<td>Closed cup: 37.8 to 61°C</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Closed cup: -18 to 23°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Pepsin</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Pepsin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Pepsin Diluent (10X)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in the following materials: cold water and hot water.</td>
<td>Soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**9.2 Other information**

No additional information.

### SECTION 10: Stability and reactivity

**10.1 Reactivity**

<table>
<thead>
<tr>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
</tbody>
</table>

**10.2 Chemical stability**

<table>
<thead>
<tr>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

**10.3 Possibility of hazardous reactions**

<table>
<thead>
<tr>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

**10.4 Conditions to avoid**

<table>
<thead>
<tr>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.</td>
<td>Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.</td>
</tr>
</tbody>
</table>

**10.5 Incompatible materials**

<table>
<thead>
<tr>
<th>Pepsin</th>
<th>Pepsin Diluent (10X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis oxidizing materials</td>
<td>Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis oxidizing materials</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products

Pepsin
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Pepsin Diluent (10X)
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pepsin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>66100 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>53 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>66100 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>53 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin Diluent (10X)</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>10600 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>60000 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>600 mg/l</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pepsin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td><strong>Pepsin Diluent (10X)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitiser

Conclusion/Summary: Not available.
Respiratory: **Pepsin**: May cause sensitisation by inhalation.
Mutagenicity
SECTION 11: Toxicological information

Conclusion/Summary: Not available.

Carcinogenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

Teratogenicity
Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract</td>
</tr>
<tr>
<td>pepsin A</td>
<td></td>
<td></td>
<td>irritation</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Aspiration hazard
Not available.

Information on likely routes of exposure: Pepsin, Pepsin Diluent (10X)

Potential acute health effects

Inhalation: Pepsin, Pepsin Diluent (10X)
- Routes of entry anticipated: Oral, Dermal, Inhalation.
- No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Ingestion: Pepsin, Pepsin Diluent (10X)
- No known significant effects or critical hazards. Can cause central nervous system (CNS) depression.

Skin contact: Pepsin, Pepsin Diluent (10X)
- Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Pepsin, Pepsin Diluent (10X)
- Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: Pepsin, Pepsin Diluent (10X)
- No specific data. Adverse symptoms may include the following: nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.

Ingestion: Pepsin, Pepsin Diluent (10X)
- No specific data.

Skin contact: Pepsin, Pepsin Diluent (10X)
- Adverse symptoms may include the following: irritation, redness.

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Eye contact:
- Pepsin
- Pepsin Diluent (10X) No specific data. Adverse symptoms may include the following: pain or irritation, watering, redness.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects
General:
- Pepsin
- Pepsin Diluent (10X) Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity:
- Pepsin
- Pepsin Diluent (10X) No known significant effects or critical hazards.

Mutagenicity:
- Pepsin
- Pepsin Diluent (10X) No known significant effects or critical hazards.

Teratogenicity:
- Pepsin
- Pepsin Diluent (10X) No known significant effects or critical hazards.

Developmental effects:
- Pepsin
- Pepsin Diluent (10X) No known significant effects or critical hazards.

Fertility effects:
- Pepsin
- Pepsin Diluent (10X) No known significant effects or critical hazards.

Other information:
- Pepsin
- Pepsin Diluent (10X) Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking. May cause sensitisation by inhalation.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>Acute EC50 10100 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1400000 μg/l Marine water</td>
<td>Crustaceans - Crangon crangon</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4200 mg/l Fresh water</td>
<td>Fish - Rasbora heteromorpha</td>
<td>96 hours</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>Acute EC50 10100 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1400000 μg/l Marine water</td>
<td>Crustaceans - Crangon crangon</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4200 mg/l Fresh water</td>
<td>Fish - Rasbora heteromorpha</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

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## SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>301E Ready Biodegradability - Modified OECD Screening Test</td>
<td>95 % - 21 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>301E Ready Biodegradability - Modified OECD Screening Test</td>
<td>95 % - 21 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td></td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP$_{ow}$</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td>0.05</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>0.05</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 12.4 Mobility in soil

- **Soil/water partition coefficient (K$_{OC}$)**: Not available.
- **Mobility**: Not available.

### 12.5 Results of PBT and vPvB assessment

- **PBT**: Not applicable.
- **vPvB**: Not applicable.

### 12.6 Other adverse effects

: No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**

- **Methods of disposal**: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste**

- **Packaging**: The classification of the product may meet the criteria for a hazardous waste.

- **Methods of disposal**: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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SECTION 13: Disposal considerations

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3316</td>
<td>CHEMICAL KIT</td>
<td>9</td>
<td>II</td>
<td>No.</td>
</tr>
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<td>Chemical kit</td>
<td>9</td>
<td>II</td>
<td>No.</td>
</tr>
</tbody>
</table>

Additional information

ADR/RID: Hazard identification number 90
Limited quantity: See SP 251
Special provisions: 251, 340
Tunnel code: (E)

IMDG: Emergency schedules: F-A, _S-P_
Special provisions: 251, 340

Special provisions: A44, A163

14.6 Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorisation
Annex XIV
None of the components are listed.
Substances of very high concern
None of the components are listed.

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### SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</th>
<th>Pepsin</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin Diluent (10X)</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

**Other EU regulations**

- **Ozone depleting substances (1005/2009/EU)**
  - Not listed.

- **Prior Informed Consent (PIC) (649/2012/EU)**
  - Not listed.

- **Seveso Directive**
  - This product is controlled under the Seveso Directive.

  **Danger criteria**

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
</tr>
<tr>
<td>P5c</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
</tr>
<tr>
<td>P5c</td>
</tr>
</tbody>
</table>

**International regulations**

- **Chemical Weapon Convention List Schedules I, II & III Chemicals**
  - Not listed.

- **Montreal Protocol (Annexes A, B, C, E)**
  - Not listed.

- **Stockholm Convention on Persistent Organic Pollutants**
  - Not listed.

- **Rotterdam Convention on Prior Informed Consent (PIC)**
  - Not listed.

- **UNECE Aarhus Protocol on POPs and Heavy Metals**
  - Not listed.

**Inventory list**

- **Australia**: Not determined.
- **Canada**: All components are listed or exempted.
- **China**: All components are listed or exempted.
- **Europe**: Not determined.
- **Malaysia**: Not determined.
- **New Zealand**: All components are listed or exempted.
- **Philippines**: All components are listed or exempted.
- **Republic of Korea**: All components are listed or exempted.
- **Taiwan**: All components are listed or exempted.
- **Thailand**: Not determined.
- **Turkey**: Not determined.
- **United States**: Not determined.

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SECTION 15: Regulatory information

15.2 Chemical safety assessment: This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classifications</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsin</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 3, H226</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Pepsin Diluent (10X)</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2, H225</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 3, H412</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements:

**Pepsin**

H225  Highly flammable liquid and vapour.
H226  Flammable liquid and vapour.
H301  Toxic if swallowed.
H311  Toxic in contact with skin.
H314  Causes severe skin burns and eye damage.
H315  Causes skin irritation.
H317  May cause an allergic skin reaction.
H319  Causes serious eye irritation.
H331  Toxic if inhaled.
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335  May cause respiratory irritation.
H336  May cause drowsiness or dizziness.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

**Pepsin Diluent (10X)**

H225  Highly flammable liquid and vapour.
H301  Toxic if swallowed.
H311  Toxic in contact with skin.
H314  Causes severe skin burns and eye damage.
H315  Causes skin irritation.
H317  May cause an allergic skin reaction.
H319  Causes serious eye irritation.
H331  Toxic if inhaled.
H335  May cause respiratory irritation.
H336  May cause drowsiness or dizziness.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

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*ISH Pepsin Kit, Part Number G9411A*

### SECTION 16: Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

#### Full text of classifications [CLP/GHS]

**Pepsin**

- Acute Tox. 3, H301: ACUTE TOXICITY (oral) - Category 3
- Acute Tox. 3, H311: ACUTE TOXICITY (dermal) - Category 3
- Acute Tox. 3, H331: ACUTE TOXICITY (inhalation) - Category 3
- Aquatic Acute 1, H400: SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
- Aquatic Chronic 1, H410: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
- Flam. Liq. 2, H225: FLAMMABLE LIQUIDS - Category 2
- Flam. Liq. 3, H226: FLAMMABLE LIQUIDS - Category 3
- Resp. Sens. 1, H334: RESPIRATORY SENSITISATION - Category 1
- Skin Corr. 1B, H314: SKIN CORROSION/IRRITATION - Category 1B
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317: SKIN SENSITISATION - Category 1
- STOT SE 3, H335: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
- STOT SE 3, H336: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

**Pepsin Diluent (10X)**

- Acute Tox. 3, H301: ACUTE TOXICITY (oral) - Category 3
- Acute Tox. 3, H311: ACUTE TOXICITY (dermal) - Category 3
- Acute Tox. 3, H331: ACUTE TOXICITY (inhalation) - Category 3
- Aquatic Acute 1, H400: SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
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- Aquatic Chronic 3, H412: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
- Flam. Liq. 2, H225: FLAMMABLE LIQUIDS - Category 2
- Skin Corr. 1B, H314: SKIN CORROSION/IRRITATION - Category 1B
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
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- STOT SE 3, H336: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

**Notice to reader**

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