Resistant Starch Assay Kit
Kit Safety Information Sheet
Date of issue: 04/06/2013 Revision date: 16/01/2018 Supersedes: 09/03/2017 Version: 1.4

SECTION 1: Kit identification

1.1. Kit identifier

Product name: Resistant Starch Assay Kit
Product code: K-RSTAR

1.2. Details of the supplier of the KIT safety information sheet

Megazyme
Bray Business Park
A98 YV29 Bray - Ireland
T +353 12861220 - F +353 12861264
cs@megazyme.com - www.megazyme.com

SECTION 2: General information

This product is a Kit which consists of several independently packaged components

This Kit should be handled in accordance with good laboratory practices and appropriate personal protective equipment should be used

SECTION 3: Kit contents

<table>
<thead>
<tr>
<th>Name</th>
<th>General description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amyloglucosidase from Aspergillus niger, AMG</td>
<td></td>
<td></td>
<td></td>
<td>Resp. Sens. 1, H334</td>
</tr>
<tr>
<td>4-HYDROXYBENZOIC ACID</td>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318 STOT SE 3, H335</td>
</tr>
<tr>
<td>HORSE RADISH PEROXIDASE</td>
<td></td>
<td></td>
<td></td>
<td>Resp. Sens. 1, H334</td>
</tr>
<tr>
<td>GLUCOSE OXIDASE</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Resp. Sens. 1, H334</td>
</tr>
<tr>
<td>sodium azide</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 2 (Oral), H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
<tr>
<td>alpha-Amylase</td>
<td></td>
<td></td>
<td></td>
<td>Resp. Sens. 1, H334</td>
</tr>
<tr>
<td>sodium hydroxide, caustic soda</td>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1A, H314</td>
</tr>
<tr>
<td>4-Aminoantipyrine</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335</td>
</tr>
<tr>
<td>benzoic acid</td>
<td></td>
<td></td>
<td></td>
<td>STOT RE 1, H372 Skin Irrit. 2, H315 Eye Dam. 1, H318</td>
</tr>
</tbody>
</table>

No substance or mixture included in the following Kit components is hazardous according to Regulation (EC) No. 1272/2008 [CLP] and therefore the requirements of Regulation (EU) 2015/830 do not apply

SECTION 4: General advice

No data available

SECTION 5: Safe handling advice

Environmental precautions: Avoid release to the environment
### Storage conditions
- Store in a well-ventilated place.
- Keep cool.

### Precautions for safe handling
- Ensure good ventilation of the work station.
- Wear personal protective equipment.

### SECTION 6: First aid measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-aid measures after eye contact</td>
<td>Rinse eyes with water as a precaution</td>
</tr>
<tr>
<td>First-aid measures after ingestion</td>
<td>Call a poison center or a doctor if you feel unwell</td>
</tr>
<tr>
<td>First-aid measures after inhalation</td>
<td>Remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td>First-aid measures after skin contact</td>
<td>Wash skin with plenty of water</td>
</tr>
<tr>
<td>Other medical advice or treatment</td>
<td>Treat symptomatically</td>
</tr>
</tbody>
</table>

### SECTION 7: Fire fighting measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection during firefighting</td>
<td>Do not attempt to take action without suitable protective equipment</td>
</tr>
<tr>
<td></td>
<td>Self-contained breathing apparatus</td>
</tr>
<tr>
<td></td>
<td>Complete protective clothing</td>
</tr>
<tr>
<td>Hazardous decomposition products in case of fire</td>
<td>Toxic fumes may be released</td>
</tr>
</tbody>
</table>

### SECTION 8: Other information

- No data available
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Mixture
Product name : Resistant Starch Assay Kit (Bottle 6)
Product code : K-RSTAR (Bottle 6)

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
Industrial/Professional use spec : For professional use only
Use of the substance/mixture : Use as laboratory reagent

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Megazyme
Bray Business Park
A98 YV29 Bray - Ireland
T +353 12861220 - F +353 12861264
cs@megazyme.com - www.megazyme.com

1.4. Emergency telephone number
Emergency number : +353 12861220 [9 am to 5 pm GMT - Monday to Friday]

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable
Labelling according to: exemption for inner packaging where the contents do not exceed 10ml
No labelling required

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH annex II

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available
4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures
5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Mechanically recover the product.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Permeation</th>
<th>Thickness (mm)</th>
<th>Penetration</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable gloves</td>
<td>Nitrile rubber (NBR)</td>
<td>3 (&gt; 60 minutes)</td>
<td>2 (&lt; 1.5)</td>
<td>EN 374-2</td>
<td></td>
</tr>
</tbody>
</table>

Eye protection:
Safety glasses

<table>
<thead>
<tr>
<th>Type</th>
<th>Use</th>
<th>Characteristics</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety glasses</td>
<td>Dust</td>
<td>With side shields</td>
<td>EN 166</td>
</tr>
</tbody>
</table>
Skin and body protection:
Wear suitable protective clothing

<table>
<thead>
<tr>
<th>Type</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab coat</td>
<td></td>
</tr>
</tbody>
</table>

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

<table>
<thead>
<tr>
<th>Device</th>
<th>Filter type</th>
<th>Condition</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>Type P1</td>
<td>Dust protection</td>
<td>EN 143, EN 149</td>
</tr>
</tbody>
</table>

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>None.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).
10.5. **Incompatible materials**
No additional information available

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

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/iritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/iritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - general</td>
<td>The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Dispose of contents/container in accordance with licensed collector’s sorting instructions.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
14.6. Special precautions for user

- Overland transport
  Not applicable

- Air transport
  Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>benzoic acid</td>
</tr>
<tr>
<td>Chemical name</td>
<td>benzoic acid</td>
</tr>
<tr>
<td>EC Index-No.</td>
<td>607-705-00-8</td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-618-2</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>65-85-0</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

No additional information available

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Specific target organ toxicity — Repeated exposure, Category 1: H372
Skin corrosion/irritation, Category 2: H315
Serious eye damage/eye irritation, Category 1: H318

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

- GHS08
- GHS05

Signal word (CLP): Danger

Hazard statements (CLP):

- H372 - Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.

Precautionary statements (CLP):

- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
No additional information available

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
No additional information available

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
No additional information available

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up
No additional information available

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
No additional information available

7.2. Conditions for safe storage, including any incompatibilities
No additional information available

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
No additional information available
**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Data Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>No data available</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

**SECTION 10: Stability and reactivity**

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
benzoic acid
Safety Data Sheet
according to Regulation (EU) 2015/830

STOT-single exposure: Not classified
STOT-repeated exposure: Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).
Aspiration hazard: Not classified

SECTION 12: Ecological information
12.1. Toxicity
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations
13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.6. Special precautions for user</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

- Overland transport
Not applicable

- Air transport
Not applicable

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

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
benzoic acid is not on the REACH Candidate List
benzoic acid is not on the REACH Annex XIV List
benzoic acid
Safety Data Sheet
according to Regulation (EU) 2015/830

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>Specific target organ toxicity — Repeated exposure, Category 1</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Substance name</th>
<th>GLUCOSE OXIDASE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>EC-No.</th>
<th>232-601-0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>9001-37-0</th>
</tr>
</thead>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
No additional information available

1.4. Emergency telephone number
No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Acute toxicity (oral), Category 4</th>
<th>H302</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (inhalation: dust, mist), Category 4</td>
<td>H332</td>
</tr>
<tr>
<td>Respiratory sensitisation, Category 1</td>
<td>H334</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

<table>
<thead>
<tr>
<th>GHS07</th>
<th>GHS08</th>
</tr>
</thead>
</table>

Signal word (CLP): Danger

Hazard statements (CLP): H302+H332 - Harmful if swallowed or if inhaled. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP):

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Name: GLUCOSE OXIDASE
Product identifier: (CAS-No.) 9001-37-0 (EC-No.) 232-601-0
%: 100
Classification according to Regulation (EC) No. 1272/2008 [CLP]:
Acute Tox. 4 (Oral), H302
Acute Tox. 4 (Inhalation:dust,mist), H332
Resp. Sens. 1, H334

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures
4.1. Description of first aid measures
No additional information available
4.2. Most important symptoms and effects, both acute and delayed
No additional information available
4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures
5.1. Extinguishing media
No additional information available
5.2. Special hazards arising from the substance or mixture
No additional information available
5.3. Advice for firefighters
No additional information available

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
No additional information available
6.1.2. For emergency responders
No additional information available
6.2. Environmental precautions
No additional information available
6.3. Methods and material for containment and cleaning up
No additional information available
6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage
7.1. Precautions for safe handling
No additional information available
7.2. Conditions for safe storage, including any incompatibilities
No additional information available
7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available
8.2. Exposure controls
No additional information available
**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
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</tr>
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</table>

**SECTION 10: Stability and reactivity**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

**SECTION 11: Toxicological information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Oral: Harmful if swallowed.</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Inhalation:dust,mist: Harmful if inhaled.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
GLUCOSE OXIDASE
Safety Data Sheet
according to Regulation (EU) 2015/830

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.6. Special precautions for user</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

- Overland transport
Not applicable

- Air transport
Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
GLUCOSE OXIDASE is not on the REACH Candidate List
GLUCOSE OXIDASE is not on the REACH Annex XIV List
15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Inhalation:dust,mist)</th>
<th>Acute toxicity (inhalation:dust,mist) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Resp. Sens. 1</td>
<td>Respiratory sensitisation, Category 1</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form: Substance
Substance name: HORSERADISH PEROXIDASE
EC-No.: 232-668-6
CAS-No.: 9003-99-0

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
No additional information available

1.4. Emergency telephone number
No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Respiratory sensitisation, Category 1 H334
Full text of H statements: see section 16

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP):

<table>
<thead>
<tr>
<th>Signal word (CLP)</th>
<th>Hazard statements (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger</td>
<td>H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td></td>
<td>P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.</td>
</tr>
<tr>
<td></td>
<td>P284 - [In case of inadequate ventilation] wear respiratory protection.</td>
</tr>
<tr>
<td></td>
<td>P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td></td>
<td>P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.</td>
</tr>
<tr>
<td></td>
<td>P501 - Dispose of contents/container to hazardous or special waste collection point, in</td>
</tr>
<tr>
<td></td>
<td>accordance with local, regional, national and/or international regulation.</td>
</tr>
</tbody>
</table>

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORSERADISH PEROXIDASE</td>
<td>(CAS-No.) 9003-99-0 (EC-No.) 232-668-6</td>
<td>100</td>
<td>Resp. Sens. 1, H334</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16
3.2. Mixtures
Not applicable

SECTION 4: First aid measures
4.1. Description of first aid measures
No additional information available
4.2. Most important symptoms and effects, both acute and delayed
No additional information available
4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures
5.1. Extinguishing media
No additional information available
5.2. Special hazards arising from the substance or mixture
No additional information available
5.3. Advice for firefighters
No additional information available

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
No additional information available
6.1.2. For emergency responders
No additional information available
6.2. Environmental precautions
No additional information available
6.3. Methods and material for containment and cleaning up
No additional information available
6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage
7.1. Precautions for safe handling
No additional information available
7.2. Conditions for safe storage, including any incompatibilities
No additional information available
7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available
8.2. Exposure controls
No additional information available

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state : Solid
Colour : No data available
Odour : No data available
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
HORSERADISH PEROXIDASE
Safety Data Sheet
according to Regulation (EU) 2015/830

Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
No additional information available

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified
12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

14.6. Special precautions for user

- Overland transport
Not applicable

- Air transport
Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
HORSERADISH PEROXIDASE is not on the REACH Candidate List
HORSERADISH PEROXIDASE is not on the REACH Annex XIV List

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Resp. Sens. 1</th>
<th>Respiratory sensitisation, Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
</tbody>
</table>
HORSERADISH PEROXIDASE
Safety Data Sheet
according to Regulation (EU) 2015/830

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. **Product identifier**

- **Product form**: Substance
- **Substance name**: 4-Aminoantipyrine
- **EC-No.**: 201-452-3
- **CAS-No.**: 83-07-8
- **Type of product**: Pure substance
- **Formula**: C11H13N3O
- **Synonyms**: 1,5-dimethyl-2-phenyl-4-aminopyrazoline / 1,5-dimethyl-2-phenyl-4-aminopyrazolone / 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one / 4-amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one / 4-aminoantipyrine / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one / 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-
- **Synonyms**: 3H-pyrazol-3-one, 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl- / 3-pyrazolin-5-one, 4-amino-2,3-dimethyl-1-phenyl- / 4-AAP (=4-aminoantipyrine) / 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-

1.2. **Relevant identified uses of the substance or mixture and uses advised against**

1.2.1. Relevant identified uses

- **Use of the substance/mixture**: Chemical substance for research

1.2.2. Uses advised against

- **No additional information available**

1.3. **Details of the supplier of the safety data sheet**

- **No additional information available**

1.4. **Emergency telephone number**

- **No additional information available**

**SECTION 2: Hazards identification**

2.1. **Classification of the substance or mixture**

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

- **Acute toxicity (oral), Category 4**: H302
- **Skin corrosion/irritation, Category 2**: H315
- **Serious eye damage/eye irritation, Category 2**: H319
- **Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation**: H335

Full text of H statements: see section 16

**Adverse physicochemical, human health and environmental effects**

- **No additional information available**

2.2. **Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

- **Hazard pictograms (CLP)**:  
  - ![GHS07]

- **Signal word (CLP)**: Warning

- **Hazard statements (CLP)**:  
  - H302 - Harmful if swallowed.
  - H315 - Causes skin irritation.
  - H319 - Causes serious eye irritation
  - H335 - May cause respiratory irritation.

- **Precautionary statements (CLP)**:  
  - P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P264 - Wash hands thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection
  - P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Aminoantipyrine</td>
<td>(CAS-No.) 83-07-8</td>
<td>100</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 201-452-3</td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after eye contact: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.


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

Symptoms/effects after inhalation: AFTER INHALATION OF DUST: Coughing. Slight irritation.

Symptoms/effects after skin contact: Red skin. Slight irritation.

Symptoms/effects after eye contact: Redness of the eye tissue. Slight irritation.

Symptoms/effects after ingestion: Irritation of the gastric/intestinal mucosa.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non-flammable. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD. Heating increases the fire hazard.

Explosion hazard: DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark.

5.3. Advice for firefighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment:
- Gloves.
- Safety glasses.
- Protective clothing.
- Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.

Emergency procedures:
- Mark the danger area.
- Prevent dust cloud formation.
- No naked flames.
- Wash contaminated clothes.

Measures in case of dust release:
- In case of dust production: keep upwind.
- Dust production: have neighbourhood close doors and windows.
- Dust production: stop engines and no smoking.
- In case of dust production: no naked flames or sparks.
- Dust: spark-/explosionproof appliances/lighting equipment.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment:
- Contain released substance, pump into suitable containers. Consult "Material-Handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill.
- Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up:
- Stop dust cloud by covering with sand/earth.
- Scoop solid spill into closing containers. See "Material-Handling" for suitable container materials.
- Powdered: do not use compressed air for pumping over spills.
- Carefully collect the spill/leftovers.
- Clean contaminated surfaces with an excess of water.
- Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:
- Comply with the legal requirements.
- Clean contaminated clothing.
- Do not discharge the waste into the drain.
- Powdered form: no compressed air for pumping over.
- Avoid raising dust.
- Keep away from naked flames/heat.
- Finely divided: spark- and explosionproof appliances.
- Finely divided: keep away from ignition sources/sparks.
- Observe normal hygiene standards.
- Keep container tightly closed.
- Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources:
- KEEP SUBSTANCE AWAY FROM: heat sources. Ignition sources.

Information on mixed storage:
- KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids.

Storage area:
- Store in a dry area.
- Store in a dark area.
- Keep container in a well-ventilated place.
- May be stored under nitrogen.
- Meet the legal requirements.

Special rules on packaging:
- Secure fragile packagings in solid containers.

Packaging materials:
- SUITABLE MATERIAL: synthetic material. Glass.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Materials for protective clothing:
- GIVE GOOD RESISTANCE: rubber

Hand protection:
- Gloves

Eye protection:
- Safety glasses. In case of dust production: protective goggles

Skin and body protection:
4-Aminoantipyrine
Safety Data Sheet
according to Regulation (EU) 2015/830

Protective clothing
Respiratory protection:
Dust production: dust mask with filter type P2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Appearance: Crystalline solid. Crystalline powder.
Molecular mass: 203.25 g/mol
Colour: Light yellow to brown.
Odour: Odourless.
Odour threshold: No data available
pH: 7.1 (10 %)
pH solution: 10 %
Relative evaporation rate (butylacetate=1): No data available
Melting point: 109 °C
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Relative density: No data available
Water: 50 g/100ml
Log Pow: -0.07 (estimated value)
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information
VOC content: 0 %
Other properties: Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Oral: Harmful if swallowed.
4-Aminoantipyrine
Safety Data Sheet
according to Regulation (EU) 2015/830

Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

4-Aminoantipyrine (83-07-8)
LD50 oral rat : 1700 mg/kg rat

Skin corrosion/irritation : Causes skin irritation.
PH: 7.1 (10 %)

Serious eye damage/irritation : Causes serious eye irritation.
PH: 7.1 (10 %)

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Severe water pollutant (surface water). Insufficient data available on ecotoxicity.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability
4-Aminoantipyrine (83-07-8)
Persistence and degradability Biodegradability in water: no data available.

12.3. Bioaccumulative potential
4-Aminoantipyrine (83-07-8)
Log Pow -0.07 (estimated value)
Bioaccumulative potential Bioaccumulation unlikely.

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Use appropriate containment to avoid environmental contamination.

Additional information : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.
European List of Waste (LoW) code : 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals
SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
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</tr>
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<td>14.2. UN proper shipping name</td>
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<td>14.3. Transport hazard class(es)</td>
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<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

14.6. Special precautions for user

- Overland transport
  Not applicable

- Air transport
  Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

4-Aminoantipyrine is not on the REACH Candidate List

4-Aminoantipyrine is not on the REACH Annex XIV List

VOC content : 0 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should therefore be construed as guaranteeing any specific property of the product.
## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
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<tbody>
<tr>
<td>Substance name</td>
<td>4-HYDROXYBENZOIC ACID</td>
</tr>
<tr>
<td>EC-No.</td>
<td>202-804-9</td>
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<tr>
<td>CAS-No.</td>
<td>99-96-7</td>
</tr>
</tbody>
</table>

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses
No additional information available

#### 1.2.2. Uses advised against
No additional information available

#### 1.3. Details of the supplier of the safety data sheet
No additional information available

#### 1.4. Emergency telephone number
No additional information available

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

<table>
<thead>
<tr>
<th>Serious eye damage/eye irritation, Category</th>
<th>H318</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
<td>H335</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

**Adverse physicochemical, human health and environmental effects**
No additional information available

### 2.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

**Hazard pictograms (CLP):**

- GHS05
- GHS07

**Signal word (CLP):** Danger

**Hazard statements (CLP):**
- H318 - Causes serious eye damage.
- H335 - May cause respiratory irritation.

**Precautionary statements (CLP):**
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTRE/doctor/…

### 2.3. Other hazards
No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances
4-HYDROXYBENZOIC ACID
Safety Data Sheet
according to Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-HYDROXYBENZOIC ACID</td>
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<td>100</td>
<td>Eye Dam. 1, H318 STOT SE 3, H335</td>
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<td>(EC-No.) 202-804-9</td>
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<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

**SECTION 4: First aid measures**

4.1. Description of first aid measures
No additional information available

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

**SECTION 5: Firefighting measures**

5.1. Extinguishing media
No additional information available

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
No additional information available

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
No additional information available

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up
No additional information available

6.4. Reference to other sections
No additional information available

**SECTION 7: Handling and storage**

7.1. Precautions for safe handling
No additional information available

7.2. Conditions for safe storage, including any incompatibilities
No additional information available

7.3. Specific end use(s)
No additional information available

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters
No additional information available

8.2. Exposure controls
No additional information available
## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Status</th>
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<tbody>
<tr>
<td>Physical state</td>
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<tr>
<td>Colour</td>
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</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
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<tr>
<td>pH</td>
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<td>Relative evaporation rate (butylacetate=1)</td>
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<tr>
<td>Melting point</td>
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<td>Freezing point</td>
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<td>Boiling point</td>
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<td>Flash point</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
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<tr>
<td>Relative vapour density at 20 °C</td>
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</tr>
<tr>
<td>Relative density</td>
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<td>Solubility</td>
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<tr>
<td>Log Pow</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
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<td>Explosive properties</td>
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<td>Explosive limits</td>
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<td>Explosive limits</td>
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</tr>
</tbody>
</table>

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxic effect</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
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</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
4-HYDROXYBENZOIC ACID
Safety Data Sheet
according to Regulation (EU) 2015/830

STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
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<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
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<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
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<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
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<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
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<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.6. Special precautions for user</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user
- Overland transport
  Not applicable
- Air transport
  Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
4-HYDROXYBENZOIC ACID is not on the REACH Candidate List
4-HYDROXYBENZOIC ACID is not on the REACH Annex XIV List
15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
sodium hydroxide, caustic soda
Safety Data Sheet
according to Regulation (EU) 2015/830

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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substances</td>
<td>sodium hydroxide, caustic soda</td>
</tr>
<tr>
<td>Chemical name</td>
<td>sodium hydroxide, caustic soda</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC Index-No.</th>
<th>011-002-00-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC-No.</td>
<td>215-185-5</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1310-73-2</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

No additional information available

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 1A H314

Full text of H statements: see section 16

Specific concentration limits:

- Skin Irrit. 2, H315
  
  H314 - Causes severe skin burns and eye damage.

- Eye Irrit. 2, H319

- Skin Corr. 1B, H314
  
  (0.5 =<C < 2)

- Skin Corr. 1A, H314
  
  (C >= 5)

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP): GHS05

Signal word (CLP): Danger

Hazard statements (CLP): H314 - Causes severe skin burns and eye damage.


P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
sodium hydroxide, caustic soda
Safety Data Sheet
according to Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
</table>
| sodium hydroxide, caustic soda | (CAS-No.) 1310-73-2  
(EC-No.) 215-185-5  
(EC Index-No.) 011-002-00-6 | 100 | Skin Corr. 1A, H314 |

Specific concentration limits:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Specific concentration limits</th>
</tr>
</thead>
</table>
| sodium hydroxide, caustic soda | (CAS-No.) 1310-73-2  
(EC-No.) 215-185-5  
(EC Index-No.) 011-002-00-6 | (0.5 <=C < 2) Skin Irrit. 2, H315  
(0.5 <=C < 2) Eye Irrit. 2, H319  
(2 <=C < 5) Skin Corr. 1B, H314  
(C >= 5) Skin Corr. 1A, H314 |

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
No additional information available

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
No additional information available

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
No additional information available

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up
No additional information available

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
No additional information available

7.2. Conditions for safe storage, including any incompatibilities
No additional information available

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available
### 8.2. Exposure controls

No additional information available

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

No additional information available

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

No additional information available

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Serious eye damage, category 1, implicit</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
sodium hydroxide, caustic soda
Safety Data Sheet
according to Regulation (EU) 2015/830

Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user
- Overland transport
Not applicable
- Air transport
Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
sodium hydroxide, caustic soda is not on the REACH Candidate List
sodium hydroxide, caustic soda
Safety Data Sheet

sodium hydroxide, caustic soda is not on the REACH Annex XIV List

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H-Statement</th>
<th>EUH-Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
alpha-Amylase Safety Data Sheet according to Regulation (EU) 2015/830

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

1.1. Product identifier

| Product form | Substance |
| Product name | alpha-Amylase |
| EC-No. | 232-565-6 |
| CAS-No. | 9000-90-2 |
| REACH registration No | 01-2119938627-26 |

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Enzyme

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

No additional information available

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Respiratory sensitisation, Category 1  H334

Full text of H statements : see section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) : GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray, P284 - [In case of inadequate ventilation] wear respiratory protection. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-Amylase</td>
<td>(CAS-No.) 9000-90-2 (EC-No.) 232-565-6</td>
<td>100</td>
<td>Resp. Sens. 1, H334</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse with water. Take victim to an ophthalmologist if irritation persists.


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

Symptoms/effects after eye contact: Slight irritation.

Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Coughing. Respiratory difficulties.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. No data available on direct fire hazard. INDIRECT FIRE HAZARD. No data available on indirect fire hazard.

Explosion hazard: DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.

5.3. Advice for firefighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Emergency procedures: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.
6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up
For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Comply with the legal requirements. Clean contaminated clothing. Avoid raising dust. Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities
Storage temperature: 2 - 8 °C
Heat and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources.
Storage area: Store in a cool area. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing, correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Materials for protective clothing:
GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available

Hand protection:
Gloves

Eye protection:
Safety glasses. In case of dust production: protective goggles

Skin and body protection:
Protective clothing

Respiratory protection:
Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Colour: Light brown.
Odour: No data available on odour.
Odour threshold: No data available
pH: 6 - 7 (1 %)
pH solution: 1 %
Relative evaporation rate (butylacetate=1): No data available
**alpha-Amylase**
Safety Data Sheet
according to Regulation (EU) 2015/830

**SECTION 8: Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.001 Pa 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Poorly soluble in water.</td>
</tr>
<tr>
<td></td>
<td>Water: 1 g/100ml</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**SECTION 9: Transport information**

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**
On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

**10.2. Chemical stability**
No data available.

**10.3. Possibility of hazardous reactions**
No additional information available

**10.4. Conditions to avoid**
No additional information available

**10.5. Incompatible materials**
No additional information available

**10.6. Hazardous decomposition products**
No additional information available

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>alpha-Amylase (9000-90-2)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 7500 mg/kg (Rat)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH: 6 - 7 (1 %)</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH: 6 - 7 (1 %)</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - general</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Ecology - air</td>
<td>Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).</td>
<td></td>
</tr>
<tr>
<td>Ecology - water</td>
<td>Mild water pollutant (surface water). Slightly harmful to invertebrates (Daphnia) (EC50 &gt; 100 mg/l). Toxic to invertebrates. Practically non-toxic to algae (EC50 &gt;100 mg/l).</td>
<td></td>
</tr>
</tbody>
</table>

**Acute aquatic toxicity**
Not classified

**Chronic aquatic toxicity**
Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish</th>
<th>EC50 Daphnia</th>
<th>Threshold limit algae</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-Amylase (9000-90-2)</td>
<td>&gt; 100 mg/l (LC50)</td>
<td>&gt; 100 mg/l (EC50)</td>
<td>&gt; 100 mg/l (EC50)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

**alpha-Amylase (9000-90-2)**
Persistency and degradability
Readily biodegradable in water.

#### 12.3. Bioaccumulative potential

**alpha-Amylase (9000-90-2)**
Bioaccumulation unlikely.

#### 12.4. Mobility in soil
No additional information available

#### 12.5. Results of PBT and vPvB assessment
No additional information available

#### 12.6. Other adverse effects
No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations
Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.

**Additional information**
LWCA (the Netherlands): KGA category 03. Can be considered as non hazardous waste according to Directive 2008/98/EC.

**European List of Waste (LoW) code**
07 05 99 - wastes not otherwise specified

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
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<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
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<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.6. Special precautions for user</td>
<td>No supplementary information available</td>
</tr>
<tr>
<td>- Overland transport</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
alpha-Amylase
Safety Data Sheet
according to Regulation (EU) 2015/830

- Air transport
  Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
  No REACH Annex XVII restrictions
  alpha-Amylase is not on the REACH Candidate List
  alpha-Amylase is not on the REACH Annex XIV List

VOC content : 0 %

15.1.2. National regulations
  No additional information available

15.2. Chemical safety assessment
  No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resp. Sens. 1</td>
<td>Respiratory sensitisation, Category 1</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
sodium azide

Safety Data Sheet

according to Regulation (EU) 2015/830

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

1.1. Product identifier

| Product form | Substance
|-------------|------------------|
| Substance name | sodium azide
| Chemical name | sodium azide
| EC Index-No. | 011-004-00-7
| EC-No. | 247-852-1
| CAS-No. | 26628-22-8

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

No additional information available

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

- Acute toxicity (oral), Category 2 H300
- Hazardous to the aquatic environment — Acute Hazard, Category 1 H400
- Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)

- GHS06
- GHS09

Signal word (CLP) : Danger

Hazard statements (CLP)

- H300 - Fatal if swallowed.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP)

- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P273 - Avoid release to the environment.
- P301+P310 - IF SWALLOWED: Immediately call a doctor
- P321 - Specific treatment (see supplemental first aid instruction on this label)
- P330 - Rinse mouth.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements

- EUH032 - Contact with acids liberates very toxic gas.

2.3. Other hazards

No additional information available
### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium azide</td>
<td>(CAS-No.) 26628-22-8 (EC-No.) 247-852-1 (EC Index-No.)</td>
<td>100</td>
<td>Acute Tox. 2 (Oral), H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

No additional information available

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

No additional information available

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

No additional information available

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

No additional information available

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

No additional information available

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

No additional information available

#### 7.2. Conditions for safe storage, including any incompatibilities

No additional information available

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| sodium azide (26628-22-8) | EU                      | Local name | Sodium azide | EU                      | IOELV TWA (mg/m³) | 0.1 mg/m³ | EU                      | IOELV STEL (mg/m³) | 0.3 mg/m³ |

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Sodium azide
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according to Regulation (EU) 2015/830

Sodium azide (26628-22-8)

EU Notes
EU Regulatory reference

COMMISSION DIRECTIVE 2000/39/EC

8.2. Exposure controls
No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
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<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
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<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
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<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
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<td>Melting point</td>
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<tr>
<td>Freezing point</td>
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<td>Boiling point</td>
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<td>Flash point</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
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<tr>
<td>Flammability (solid, gas)</td>
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<td>Vapour pressure</td>
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<td>Relative vapour density at 20 °C</td>
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<td>Solubility</td>
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<tr>
<td>Log Pow</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
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<tr>
<td>Explosive properties</td>
<td>No data available</td>
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<tr>
<td>Oxidising properties</td>
<td>No data available</td>
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<tr>
<td>Explosive limits</td>
<td>No data available</td>
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</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
No additional information available

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Oral: Fatal if swallowed.</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
sodium azide
Safety Data Sheet
according to Regulation (EU) 2015/830

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>ADR</th>
<th>IATA</th>
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<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

14.6. Special precautions for user

- Overland transport
Not applicable

- Air transport
Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable
sodium azide
Safety Data Sheet
according to Regulation (EU) 2015/830

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
sodium azide is not on the REACH Candidate List
sodium azide is not on the REACH Annex XIV List

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 2 (Oral)</th>
<th>Acute toxicity (oral), Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>H300</td>
<td>Fatal if swallowed.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>EUH032</td>
<td>Contact with acids liberates very toxic gas.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Amyloglucosidase from Aspergillus niger, AMG
Safety Data Sheet
according to Regulation (EU) 2015/830

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

1.1. Product identifier

Product form: Substance
Substance name: Amyloglucosidase from Aspergillus niger, AMG
EC-No.: 232-877-2
CAS-No.: 9032-08-0

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
No additional information available

1.4. Emergency telephone number
No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Respiratory sensitisation, Category 1
H334
Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):
GHS08

Signal word (CLP): Danger
Hazard statements (CLP): H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311 - IF experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amyloglucosidase from Aspergillus niger, AMG</td>
<td>(CAS-No.) 9032-08-0  (EC-No.) 232-877-2</td>
<td>100</td>
<td>Resp. Sens. 1, H334</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16
Amyloglucosidase from Aspergillus niger, AMG
Safety Data Sheet
according to Regulation (EU) 2015/830

3.2. Mixtures
Not applicable

SECTION 4: First aid measures
4.1. Description of first aid measures
No additional information available

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures
5.1. Extinguishing media
No additional information available

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
No additional information available

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
No additional information available

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up
No additional information available

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage
7.1. Precautions for safe handling
No additional information available

7.2. Conditions for safe storage, including any incompatibilities
No additional information available

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

8.2. Exposure controls
No additional information available

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
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</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
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</tbody>
</table>

15/03/2018 EN (English) 51/54
Amyloglucosidase from Aspergillus niger, AMG
Safety Data Sheet
according to Regulation (EU) 2015/830

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
No additional information available

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified
Amyloglucosidase from Aspergillus niger, AMG
Safety Data Sheet
according to Regulation (EU) 2015/830

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

<table>
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<th>IATA</th>
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<tr>
<td>14.1. UN number</td>
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<td>14.2. UN proper shipping name</td>
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<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
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<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

14.6. Special precautions for user

- Overland transport
Not applicable

- Air transport
Not applicable

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Amyloglucosidase from Aspergillus niger, AMG is not on the REACH Candidate List
Amyloglucosidase from Aspergillus niger, AMG is not on the REACH Annex XIV List

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

| H334 | Respiratory sensitisation, Category 1 |
|      | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
Amyloglucosidase from Aspergillus niger, AMG
Safety Data Sheet

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.