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

1.1. Product identifier

Product form: Mixture
Name: β-Amylase Assay Kit (Betamyl-3) K-BETA3 Bottle 1

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

1.2.1. Relevant identified uses

Industrial/Professional use spec: Industrial
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, Bray, Co. Wicklow, A98 YV29, Ireland.
T 1 286 1220 - F 1 286 1264
cs@megazyme.com - http://secure.megazyme.com

1.4. Emergency telephone number

Emergency number: +353-1-2861220

<table>
<thead>
<tr>
<th>Country</th>
<th>Official advisory body</th>
<th>Address</th>
<th>Emergency number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRELAND (REPUBLIC OF)</td>
<td>National Poisons Information Centre</td>
<td>Beaumont Hospital Beaumont Road Dublin 9</td>
<td>+353 1 8379964</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>National Poisons Information Service</td>
<td>Dudley Road Birmingham B18 7QH</td>
<td>0870 600 6266 (UK only)</td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Resp. Sens. 1 H334
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC
Xn; R42
Full text of R-phrases: 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]

Signal word (CLP): Danger
Hazard pictograms (CLP): GHS05
Hazardous ingredients: glucosidase, β-
Hazard statements (CLP): H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
Precautionary statements (CLP): P261 - Avoid breathing dust
P285 - In case of inadequate ventilation wear respiratory protection
P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a...
2.3.  Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1.  Substances
Not applicable

3.2.  Mixture

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<tr>
<th>Name</th>
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<tr>
<td></td>
<td>(EC Index No) 647-001-00-8</td>
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<td></td>
</tr>
</tbody>
</table>

Full text of R-, H- and EUH-phrases: see section 16

SECTION 4: First aid measures

4.1.  Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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: Do not use a heavy water stream.

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

5.3.  Advice for firefighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1.  Personal precautions, protective equipment and emergency procedures

6.1.1.  For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2.  For emergency responders
Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.
6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust/fume/gas/mist/vapours/spray.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. Incompatible materials: Sources of ignition. Direct sunlight.

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
Personal protective equipment: Avoid all unnecessary exposure.
Hand protection: Wear protective gloves.
Eye protection: Chemical goggles or safety glasses.
Respiratory protection: In case of inadequate ventilation wear respiratory protection.
Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state: Solid
Colour: Colourless
Odour: Characteristic
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Self 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
Log Kow: No data available
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
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available.

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
   Based on available data, the classification criteria are not met.

Skin corrosion/irritation : Not classified
   Based on available data, the classification criteria are not met.

Serious eye damage/irritation : Not classified
   Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
   May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity : Not classified
   Based on available data, the classification criteria are not met.

Carcinogenicity : Not classified
   Based on available data, the classification criteria are not met.

Reproductive toxicity : Not classified
   Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) : Not classified
   Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) : Not classified
   Based on available data, the classification criteria are not met.

Aspiration hazard : Not classified
   Based on available data, the classification criteria are not met.

Potential adverse human health effects and symptoms : Not classified
   Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability

| K-BETA3 Bottle 1 | Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| K-BETA3 Bottle 1 | Bioaccumulative potential | Not established. |

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

Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR/RID/ADNR/IMDG/ICAO/IATA

#### 14.1. UN number

Not dangerous goods in sense of transport regulations

#### 14.2. UN proper shipping name

Not applicable

#### 14.3. Transport hazard class(es)

Not applicable

#### 14.4. Packing group

Not applicable

#### 14.5. Environmental hazards

Other information: No supplementary information available

#### 14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

Contains no REACH candidate substance

#### 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


Other information: None.

Full text of R-, H- and EUH-phrases:

<table>
<thead>
<tr>
<th>R</th>
<th>H</th>
<th>Xn</th>
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<tbody>
<tr>
<td>Resp. Sens. 1</td>
<td>Sensitisation — Respiratory, category 1</td>
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</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled</td>
<td></td>
</tr>
<tr>
<td>R42</td>
<td>May cause sensitization by inhalation</td>
<td></td>
</tr>
<tr>
<td>Xn</td>
<td>Harmful</td>
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</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 : Mixture
Name : β-Amylase Assay Kit (Betamyl-3)

K-BETA3 Bottle 4

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
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,
Bray, Co. Wicklow,
A98 YV29,
Ireland.
T 1 286 1220 - F 1 286 1264
cs@megazyme.com - http://secure.megazyme.com

1.4. Emergency telephone number

Emergency number : +353-1-2861220

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<td>UNITED KINGDOM</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road Birmingham B18 7QH</td>
<td>0870 600 6266 (UK only)</td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 3 H335
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC
Xi; R36/37/38
Full text of R-phrases: 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) :

Signal word (CLP) : Warning
Hazard statements (CLP) : H315 - Causes skin irritation
H319 - Causes serious eye irritation
**β-Amylase Assay Kit (Betamyl-3) K-BETA3 Bottle 4**

Safety Data Sheet according to Regulation (EC) No. 453/2010

20/03/2017 EN (English) 8/12

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### 2.3. Other hazards

No additional information available

#### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
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<tr>
<td>DL-cysteine hydrochloride monohydrate</td>
<td>(CAS No) 116797-51-4 100</td>
<td>Xi; R36/37/38</td>
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</tr>
</tbody>
</table>

#### Full text of R-, H- and EUH-phrases: see section 16

#### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures general**: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**First-aid measures after inhalation**: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE/doctor/physician if you feel unwell.

**First-aid measures after skin contact**: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

**First-aid measures after eye contact**: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

**First-aid measures after ingestion**: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

**Symptoms/injuries after inhalation**: May cause respiratory irritation.

**Symptoms/injuries after skin contact**: Causes skin irritation.

#### 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**: Do not use a heavy water stream.

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

No additional information available

#### 5.3. Advice for firefighters

**Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
**Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection.

**SECTION 6: Accidental release measures**

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

6.1.1. **For non-emergency personnel**

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. **For emergency responders**

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. **Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. **Reference to other sections**

See Heading 8. Exposure controls and personal protection.

**SECTION 7: Handling and storage**

7.1. **Precautions for safe handling**

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

Hygiene measures: Wash thoroughly after handling.

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

Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container tightly closed.

Incompatible materials: Sources of ignition. Direct sunlight.

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**

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

**SECTION 9: Physical and chemical properties**

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

- **Physical state**: Solid
- **Colour**: Colourless
- **Odour**: Characteristic
- **Odour threshold**: No data available
- **pH**: No data available
- **Relative evaporation rate (butylacetate=1)**: No data available
- **Melting point**: No data available
- **Freezing point**: No data available
- **Boiling point**: No data available
- **Flash point**: No data available
- **Self ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Flammability (solid, gas)**: No data available
β-Amylase Assay Kit (Betamyl-3)
K-BETA3 Bottle 4
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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
Log Kow : No data available
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
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available.

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
   Based on available data, the classification criteria are not met.
Skin corrosion/irritation : Causes skin irritation.
   Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
   Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation : Not classified
   Based on available data, the classification criteria are not met.
Germ cell mutagenicity : Not classified
   Based on available data, the classification criteria are not met.
Carcinogenicity : Not classified
   Based on available data, the classification criteria are not met.
Reproductive toxicity : Not classified
   Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
   May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
   Based on available data, the classification criteria are not met.
Aspiration hazard : Not classified
   Based on available data, the classification criteria are not met.
Potential adverse human health effects and symptoms : Not classified
   Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity
No additional information available
12.2. Persistence and degradability

| K-BETA3 Bottle 4 | Persistence and degradability | Not established. |

| DL-cysteine hydrochloride monohydrate (116797-51-4) | Persistence and degradability | Biodegradability in water: no data available. |

12.3. Bioaccumulative potential

| K-BETA3 Bottle 4 | Bioaccumulative potential | Not established. |

| DL-cysteine hydrochloride monohydrate (116797-51-4) | Bioaccumulative potential | Not established. |

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

Other information: Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR/RID/ADNR/IMDG/ICAO/IATA

14.1. UN number

Not dangerous goods in sense of transport regulations

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information: No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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
Contains no REACH candidate substance

15.1.2. National regulations

No additional information available
β-Amylase Assay Kit (Betamyl-3)
K-BETA3 Bottle 4
Safety Data Sheet
according to Regulation (EC) No. 453/2010

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information


Other information: None.

Full text of R-, H- and EUH-phrases:

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<th>R</th>
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<th>EUH</th>
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<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
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</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
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</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
<td></td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
<td></td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
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</tr>
<tr>
<td>R36/37/38</td>
<td>Irritating to eyes, respiratory system and skin</td>
<td></td>
</tr>
<tr>
<td>Xi</td>
<td>Irritant</td>
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</tbody>
</table>

SDS EU (REACH Annex II)

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