Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO
Safety Data Sheet
according to Regulation (EC) No. 453/2010
Date of issue: 05/06/2013
Revision date: 20/03/2017
Supersedes: 04/06/2013
Version: 1.2

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

1.1. Product identifier
Product form: Mixture
Name: Ascorbic Acid (L-Ascorbate) Assay Kit K-ASCO 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
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,
A88 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 Beaumont Hospital</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 (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]
Eye Dam. 1 H318
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC
Xi; R36
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):

<table>
<thead>
<tr>
<th>Signal word (CLP)</th>
<th>Hazardous ingredients</th>
<th>Hazard statements (CLP)</th>
<th>Precautionary statements (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger</td>
<td>TRITON X-100</td>
<td>H318 - Causes serious eye damage</td>
<td>P280 - Wear protective gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</td>
</tr>
</tbody>
</table>
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 1
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRITON X-100</td>
<td>(CAS No) 9002-93-1</td>
<td>5-10</td>
<td>Xi; R22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Classification according to Regulation (EC) No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1272/2008 [CLP]</td>
</tr>
<tr>
<td>TRITON X-100</td>
<td>(CAS No) 9002-93-1</td>
<td>5-10</td>
<td>Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318</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: Ensure fresh air breathing. Allow the victim to rest.

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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.

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 eye contact: Causes serious eye damage.

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.
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 1

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

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. 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.

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 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
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
Liquid

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
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 1

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

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

<table>
<thead>
<tr>
<th>TRITON X-100 (9002-93-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1800 mg/kg rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 3000 mg/kg rabbit</td>
</tr>
<tr>
<td>ATE (oral)</td>
<td>1800.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td></td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Potential adverse human health effects and symptoms</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>TRITON X-100 (9002-93-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 10 mg/L (96 h; Lepomis macrochirus; TOXICITY TEST)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>26 mg/L (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 1</td>
<td>10 mg/L (336 h; Lemna sp.; BIOMASS)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>8.9 mg/L (96 h; Pimephales promelas)</td>
</tr>
</tbody>
</table>
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th><strong>K-ASCO Bottle 1</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>TRITON X-100 (9002-93-1)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable in water.</td>
</tr>
<tr>
<td>ThOD</td>
<td>2.16 g O₂/g substance</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th><strong>K-ASCO Bottle 1</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>TRITON X-100 (9002-93-1)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>4.86 (estimated value)</td>
</tr>
</tbody>
</table>

### 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.
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 1

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

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

Data sources:

Other information:
None.

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

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>R22</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>R36</td>
<td>Irritating to eyes</td>
</tr>
<tr>
<td>R41</td>
<td>Risk of serious damage to eyes</td>
</tr>
<tr>
<td>Xi</td>
<td>Irritant</td>
</tr>
<tr>
<td>Xn</td>
<td>Harmful</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.
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 2
Safety Data Sheet
according to Regulation (EC) No. 453/2010
Date of issue: 05/06/2013 Revision date: 20/03/2017 Supersedes: 04/06/2013 Version: 1.2

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

1.1. Product identifier
Product form: Mixture
Name: Ascorbic Acid (L-Ascorbate) Assay Kit K-ASCO Bottle 2

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 (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]
Muta. 2 H341
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC
Muta.Cat.3; R68
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): 

<table>
<thead>
<tr>
<th>Signal word (CLP)</th>
<th>Hazardous ingredients</th>
<th>Hazard statements (CLP)</th>
<th>Precautionary statements (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
<td>MTT</td>
<td>H341 - Suspected of causing genetic defects</td>
<td>P201 - Obtain special instructions before use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P202 - Do not handle until all safety precautions have been read and understood</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P281 - Use personal protective equipment as required</td>
</tr>
</tbody>
</table>

20/03/2017 EN (English) 7/18
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 2
Safety Data Sheet
according to Regulation (EC) No. 453/2010

P308+P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501A - Dispose of this material and its container at hazardous or special waste collection point

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>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTT</td>
<td>(CAS No) 298-93-1</td>
<td>1-2</td>
<td>Muta.Cat.3; R68</td>
</tr>
</tbody>
</table>

<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>MTT</td>
<td>(CAS No) 298-93-1</td>
<td>1-2</td>
<td>Skin Irrit. 2, H315</td>
</tr>
</tbody>
</table>

Eye Irrit. 2, H319
Muta. 2, H341
STOT SE 3, H335

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: Ensure fresh air breathing. Allow the victim to rest.
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: Suspected of causing genetic defects.

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: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. 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. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.

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: 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: Liquid

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

   Germ cell mutagenicity : Suspected of causing genetic defects.
       Suspected of causing genetic defects.

   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-ASCO Bottle 2
   Persistence and degradability : Not established.

   MTT (298-93-1)
   Persistence and degradability : Biodegradability in water: no data available.

12.3. Bioaccumulative potential

   K-ASCO Bottle 2
   Bioaccumulative potential : Not established.

   MTT (298-93-1)
   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:

Eye Irrit. 2: Serious eye damage/eye irritation, Category 2
## Ascorbic Acid (L-Ascorbate) Assay Kit

### K-ASCO Bottle 2

**Safety Data Sheet**

according to Regulation (EC) No. 453/2010

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muta. 2</td>
<td>Germ cell mutagenicity, 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>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>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects</td>
</tr>
<tr>
<td>R68</td>
<td>Possible risk of irreversible effects</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 : Mixture
Name : Ascorbic Acid (L-Ascorbate) Assay Kit K-ASCO Bottle 3

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]
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) : ![GHS07]

Signal word (CLP) : Warning
Hazard statements (CLP) : H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 3
Safety Data Sheet
according to Regulation (EC) No. 453/2010

Precautionary statements (CLP):
P261 - Avoid breathing dust
P264 - Wash Both hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position 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
P312 - Call a POISON CENTRE/doctor/physician if you feel unwell
P332+P313 - If skin irritation occurs: Get medical advice/attention
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501A - Dispose of this material and its container at hazardous or special waste collection point

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>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-methylphenazinium methyl sulfate</td>
<td>(CAS No) 299-11-6</td>
<td>100</td>
<td>Xi; R36/37/38</td>
</tr>
<tr>
<td></td>
<td>(EC No) 206-072-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<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>5-methylphenazinium methyl sulfate</td>
<td>(CAS No) 299-11-6</td>
<td>100</td>
<td>Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td>(EC No) 206-072-1</td>
<td></td>
<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: 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.
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 3

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

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

<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>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</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>
</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>Self 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>
</tbody>
</table>
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 3
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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: 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.

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
### Ascorbic Acid (L-Ascorbate) Assay Kit
#### K-ASCO Bottle 3

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

<table>
<thead>
<tr>
<th>12.2. Persistence and degradability</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K-ASCO Bottle 3</strong></td>
<td></td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>5-methylphenazinium methyl sulfate (299-11-6)</strong></td>
<td></td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability in water: no data available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.3. Bioaccumulative potential</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K-ASCO Bottle 3</strong></td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>5-methylphenazinium methyl sulfate (299-11-6)</strong></td>
<td></td>
</tr>
<tr>
<td>Log Pow</td>
<td>0</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Bioaccumulation unlikely.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.4. Mobility in soil</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.5. Results of PBT and vPvB assessment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.6. Other adverse effects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information:</td>
<td>Avoid release to the environment</td>
</tr>
</tbody>
</table>

### SECTION 13: Disposal considerations

<table>
<thead>
<tr>
<th>13.1. Waste treatment methods</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste disposal recommendations:</td>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
</tr>
<tr>
<td>Ecology - waste materials:</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

### SECTION 14: Transport information

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

<table>
<thead>
<tr>
<th>14.1. UN number</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not dangerous goods in sense of transport regulations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.2. UN proper shipping name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3. Transport hazard class(es)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4. Packing group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5. Environmental hazards</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information:</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6. Special precautions for user</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>14.6.1. Overland transport</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6.2. Transport by sea</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6.3. Air transport</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>15.1.1. EU-Regulations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No REACH Annex XVII restrictions</td>
<td></td>
</tr>
<tr>
<td>Contains no REACH candidate substance</td>
<td></td>
</tr>
</tbody>
</table>
Ascorbic Acid (L-Ascorbate) Assay Kit
K-ASCO Bottle 3
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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>Code</th>
<th>Description</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>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>
<tr>
<td>R36/37/38</td>
<td>Irritating to eyes, respiratory system and skin</td>
</tr>
<tr>
<td>Xi</td>
<td>Irritant</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.