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

1.1. Product identifier

Identification of the product : Raw material
Product code : C8003
Trade name : Cellulase Onozuka RS
CAS number : CAS No : 009012-54-8

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

Use : For professional use only. Duchefa Biochemie B.V. products are only intended for in vitro laboratory research purposes.

1.3. Details of the supplier of the safety data sheet

Company identification : Duchefa Biochemie B.V.
A. Hofmanweg 71
2031 BH Haarlem The Netherlands
Tel: +31(0)23-5319093
Fax: +31(0)23-5318027
E-mail: info@duchefa.nl

1.4. Emergency telephone number

Emergency phone nr : Tel: (+31)-(0)23-5319093 (local time : 9.00 to 17.00)
See www.who.int/ipcs/en/ for a local poison centre
National Poison Information Centre : Europe NL : +31 30 274 88 88
(this service is only available to health professionals)

SECTION 2 Hazards identification

Note : Duchefa classification was stated as not dangerous

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45
Hazard Class and Category Code Regulation EC 1272/2008 (CLP)
- Health hazards : Respiratory sensitization - Category 1 - Danger (CLP : Resp. Sens. 1)

2.2. Label elements

Labelling EC 67/548 or EC 1999/45
- Symbol(s)

: Xn : Harmful

- R Phrase(s)

: R42 : May cause sensitization by inhalation.

- S Phrase(s)

: S22 : Do not breathe dust.
S24 : Avoid contact with skin.
S36/37 : Wear suitable protective clothing and gloves.
SECTION 2  Hazards identification  (continued)

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms

• Hazard pictograms code : GHS08
• Signal words : Danger
• Hazard statements : H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
• Precautionary statements
  - Prevention : P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
  - Response : P304+P341 - IF INHALED : If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

2.3. Other hazards
None under normal conditions.

SECTION 3  Composition/information on ingredients

Substance / Preparation : Substance.
Cellulase
CAS No :009012-54-8
EC No :232-734-4
Annex No :647-002-00-3
Ref REACH :---

Components : This product is hazardous.

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Contents</th>
<th>CAS No</th>
<th>EC No</th>
<th>Annex No</th>
<th>Ref REACH</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulase</td>
<td>&gt;16000</td>
<td>9012-54-8</td>
<td>232-734-4</td>
<td>647-002-00-3</td>
<td>---</td>
<td>R42 Resp. Sens. 1</td>
</tr>
</tbody>
</table>

"Derived from Cellulase Onozuka R-10" from Trichoderma Viride

SECTION 4  First aid measures

4.1. Description of first aid measures

- General information : Seek medical attention if ill effect develops.
- Inhalation : Remove victim to fresh air.
- Skin contact : Wash skin with mild soap and water.
Seek medical attention immediately.
- Eye contact : Rinse with water.
- Ingestion : Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms and effects, both acute and delayed : May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed
Medical attention and special treatment needed : No data available.

SECTION 5  Fire-fighting measures

5.1. Extinguishing media
SAFETY DATA SHEET

Cellulase Onozuka RS

C8003

SECTION 5  Fire-fighting measures (continued)

- Suitable extinguishing media
  : Water spray.
  : Carbon dioxide (CO2).
  : Dry powder.

5.2. Special hazards arising from the substance or mixture

Not hazardous.

5.3. Advice for fire-fighters

Protection against fire : Wear proper protective equipment.
Special procedures : Avoid (reject) fire-fighting water to enter environment.

SECTION 6  Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Clean up methods : Dispose in a safe manner in accordance with local/national regulations.
                   : Sweep up dry powder and dispose properly.

6.4. Reference to other sections

Reference to other sections : No Reference

SECTION 7  Handling and storage

7.1. Precautions for safe handling

General : Store in dry, well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry.
Storage : Store at 2 - 8 ºC

7.3. Specific end use(s)

Specific end use(s) : For professional use only.
                   : Duchefa Biochemie B.V. products are only intended for in vitro laboratory research purposes.

SECTION 8  Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

- Eye protection : Chemical goggles or safety glasses.
- Skin protection : S36 : Wear suitable protective clothing.
- Hand protection : Gloves.
- Respiratory protection : P2 Where excessive dust may result, wear approved mask.
## SECTION 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Powder.</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Off-white.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Odourless.</td>
</tr>
<tr>
<td><strong>Odour threshold</strong></td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>pH</strong> value</td>
<td>4 - 5 Optimum</td>
</tr>
<tr>
<td><strong>Melting point / Freezing point</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Initial boiling point - boiling range</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Explosion limits (lower - upper)</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Relative vapour density (air=1)</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Good.</td>
</tr>
<tr>
<td><strong>Partition coefficient : n-octanol / water</strong></td>
<td>Log P: Not established.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature [°C]</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Thermal decomposition</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Thermal decomposition [°C]</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Explosive Properties</strong></td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>Explosive Properties</strong></td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>Oxidising properties</strong></td>
<td>Not established.</td>
</tr>
</tbody>
</table>
SECTION 9  Physical and chemical properties  (continued)

Oxidising properties : Not established.

9.2.  Other information

Other data : Loss on drying < 10 %

SECTION 10  Stability and reactivity

10.1.  Reactivity
Stable under normal conditions.

10.2.  Chemical stability
Stability : Stable under normal conditions.

10.3.  Possibility of hazardous reactions
No data available.

10.4.  Conditions to avoid
Conditions to avoid : Heat. Moisture.

10.5.  Incompatible materials
No data available.

10.6.  Hazardous decomposition products
Hazardous decomposition products : May liberate toxic gases.

SECTION 11  Toxicological information

11.1.  Information on toxicological effects
- Inhalation : May cause irritation to the respiratory tract.
- Dermal : Exposure may produce an allergic reaction.
- Ocular : May cause eye irritation.

SECTION 12  Ecological information

12.1.  Toxicity
Not established.

12.2.  Persistence - degradability
Minimally biodegradable.

12.3.  Bioaccumulative potential
No data available.

12.4.  Mobility in soil
No data available.

12.5.  Results of PBT and vPvB assessment
No data available.

12.6.  Other adverse effects
Environmental precautions : Prevent entry to sewers and public waters. Avoid release to the environment.
SECTION 13  Disposal considerations

13.1. Waste treatment methods
Special precautions : When not empty dispose of this container at hazardous or special waste collection point.

SECTION 14  Transport information

14.1. UN Number
Not applicable.

14.2. Proper shipping name
Not applicable.

14.3. Transport Hazard Classification
Not applicable.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Not applicable.

14.6. Special precautions for user
Not applicable.

14.7. Bulk transport - annex II Marpol 73/78 - IBC
Not applicable.

SECTION 15  Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Ensure all national/local regulations are observed.


Other : Duchefa classification was stated as not dangerous

15.2. Chemical Safety Assessment

SECTION 16  Other information

Further information : The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Revision : 0 Complete SDS revision
1 : 
1.3 Add poison centre information
15. Regulatory information

The contents and format of this SDS are in accordance with REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
End of document