

# Macerozyme R-10

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 23/09/2011      Revision date 22/02/2017  
Supersedes 07/10/2011

**M8002**

Version: 2.0

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : Macerozyme R-10  
EC-No. : 232-885-6  
CAS-No. : 9032-75-1  
Product code : M8002  
Synonyms : Polygalacturonase  
Pectinase  
Macerating enzyme from Rhizopus sp.  
poly-(1,4- $\alpha$ -d-galacturonide) glycanohydrolase  
Product group : Raw material

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

Duchefa Biochemie B.V.  
A. Hofmanweg 71  
2031 BH Haarlem - The Netherlands  
T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
+31(0)23-5319093 (M-F 09:00-17:00)  
+31(0)6-30109355 (outside office hours)

| Organisation/Company  | Address   | Comment                                   |
|---|---|---|
| World Health Organization world directory of poison centres | <a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a> | Consult website for a local poison centre |

### 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.

Precautionary statements (CLP)

: P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.  
P304+P341 - IF INHALED: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Comments : Macerozyme R-10 contents >3000 U/g

| Name            | Product identifier                        | %   | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-----------------|---|-----|---|
| Macerozyme R-10 | (CAS-No.) 9032-75-1<br>(EC-No.) 232-885-6 | 100 | Not classified  |

Comments

: A multicomponent enzyme mixture containing approximately:  
- Pectinase 0.5 U/mg  
- Cellulase 0.1 U/mg  
- Hemicellulase 0.25 U/mg

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Seek medical attention if ill effect or irritation develops.  
First-aid measures after inhalation : Remove victim to fresh air.  
First-aid measures after skin contact : Wash skin with mild soap and water.  
First-aid measures after eye contact : Rinse with water.  
First-aid measures after ingestion : Rinse mouth out with water.

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

Symptoms/effects : Exposure may produce an allergic reaction.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray  
Carbon dioxide (CO<sub>2</sub>), dry chemical powder, foam.

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

Hazardous decomposition products in case of fire : Under fire conditions, hazardous fumes will be present:  
- CO<sub>x</sub>  
- NO<sub>x</sub>.

#### 5.3. Advice for firefighters

Precautionary measures fire : Wear proper protective equipment.  
Firefighting instructions : Prevent fire fighting water from entering the environment.

### SECTION 6: Accidental release measures

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

General measures : Wear proper protective equipment.

##### 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

Prevent entry to sewers and public waters.

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

Methods for cleaning up : Sweep up dry powder and dispose properly.

#### 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

Storage conditions : Store in dry, cool, well-ventilated area.

Storage temperature : 2 - 8 °C

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

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

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

**Hand protection:**

| Type   | Material             | Permeation        | Thickness (mm) | Standard |
|--------|----------------------|-------------------|----------------|----------|
| Gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | 0,11           | EN 374   |

### Eye protection:

Safety glasses

### Skin and body protection:

In case of possible repeated skin contact wear protective clothing

### Respiratory protection:

Where excessive dust may result, wear approved mask. Filter type P3 (EN 143)

## SECTION 9: Physical and chemical properties

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

|  |   |
|--|---|
| Physical state                             | : Solid   |
| Appearance                                 | : Powder.   |
| Colour                                     | : Beige<br>amber.   |
| Odour                                      | : Characteristic. slightly.   |
| Odour threshold                            | : No data available   |
| pH   | : 3,5 - 7 optimum pH  |
| pH solution                                | : 1 (6,5 - 7,5) %   |
| 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   |
| 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   |
| Density                                    | : $\approx 1,22 \text{ g/cm}^3$   |
| Solubility                                 | : 1 mg/ml 0.1 M sodium acetate buffer pH 4.5.<br>Water: In water, material is partially soluble |
| Log Pow                                    | : 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

Other properties : Loss on drying <10%.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

None under normal conditions.

#### 10.2. Chemical stability

Stable under normal conditions of storage, handling and use.

#### 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

When heated to decomposition, emits dangerous fumes:

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

|                                   |  |
|-----------------------------------|--|
| Acute toxicity                    | : Not classified   |
| Skin corrosion/irritation         | : Not classified<br>pH: 3,5 - 7 optimum pH                                   |
| Serious eye damage/irritation     | : Not classified<br>pH: 3,5 - 7 optimum pH                                   |
| 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

No additional information available

#### 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

Additional information : Prevent entry to sewers and public waters. Avoid release to the environment

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADN / ADR / IATA / IMDG

| ADR                                     | IMDG           | IATA           | ADN            |
|---|----------------|----------------|----------------|
| <b>14.1. UN number</b>                  |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| <b>14.2. UN proper shipping name</b>    |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| <b>14.3. Transport hazard class(es)</b> |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| <b>14.4. Packing group</b>              |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| <b>14.5. Environmental hazards</b>      |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable |
| No supplementary information available  |                |                |                |

### 14.6. Special precautions for user

#### . Overland transport

Not applicable

#### - Transport by sea

Not applicable

#### - Air transport

Not applicable

#### - Inland waterway 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

Ensure all national/local regulations are observed.

#### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : Macerozyme R-10 is listed  
 SZW-lijst van mutagene stoffen : Macerozyme R-10 is listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

#### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Indication of changes:

|     |                            |          |   |
|-----|----------------------------|----------|---|
| 1.4 | Emergency telephone number | Modified | Added additional information  |
| 2.2 | Hazard statements (CLP)    | Added    | Added H334, P261, P304+P341 and signal word in accordance with new information of supplier. |
| 8.2 | Hand protection            | Modified | Specified material, thickness, et cetera of gloves  |

Abbreviations and acronyms:

|       |   |
|-------|---|
| ADN   | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways   |
| ADR   | European Agreement concerning the International Carriage of Dangerous Goods by Road               |
| CLP   | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008                       |
| IATA  | International Air Transport Association   |
| IMDG  | International Maritime Dangerous Goods  |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| SDS   | Safety Data Sheet   |

Data sources : Supplier.

Full text of H- and EUH-statements:

|               |  |
|---------------|--|
| Resp. Sens. 1 | Respiratory sensitisation, Category 1                                      |
| H334          | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

SDS Biochemicals version 2018

# Macerozyme R-10

## Safety Data Sheet

M8002

according to Regulation (EU) 2015/830

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*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*