

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 28.11.2011

Version number 1

Revision: 13.07.2009

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

### 1.1. Product identifier

· Trade name: Peroxidase from horseradish

· Article number: 31941

· CAS Number:

9003-99-0

· EC number:

232-668-6

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

· Application of the substance / the preparation Laboratory chemicals

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

#### · Manufacturer/Supplier:

SERVA Electrophoresis GmbH

Carl-Benz-Str. 7

D-69115 Heidelberg

Tel.: +49 6221 13840-0

FAX: +49 6221 13840-10

msds.info@serva.de

· Information department: Product Safety department Tel.: +49 6221 13840-35

· 1.4. Emergency telephone number: +49 6131 19240 (university hospital Mainz)

**SERVA**  
Electrophoresis

## 2 Hazards identification

### 2.1. Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008



GHS08

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Sensitising

R42: May cause sensitisation by inhalation.

#### · Classification system:

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

### 2.2. Label elements

· Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms GHS08

· Signal word Danger

· Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· Precautionary statements

P285 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3. Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

(Contd. on page 2)

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(Contd. of page 1)

· vPvB: Not applicable.

### 3 Composition/information on ingredients

#### · 3.1. Chemical characterization: Substances

##### · CAS No. Description:

9003-99-0 Peroxidase

##### · Identification number(s):

· EC number: 232-668-6

##### · Description:

· MW: ca. 40000

#### · Regulation (EC) No 648/2004 on detergents / Labelling for contents

enzymes

≥ 30%

### 4 First aid measures

#### · 4.1. Description of first aid measures

· After inhalation Supply fresh air; consult doctor in case of complaints.

· After skin contact Immediately wash with water and soap and rinse thoroughly.

· After eye contact Rinse opened eye for several minutes under running water.

##### · After swallowing

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

##### · Information for doctor

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

No further relevant information available.

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

No further relevant information available.

### 5 Firefighting measures

#### · 5.1. Extinguishing media

##### · Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

In case of fire, the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide and carbon dioxide

#### · 5.3. Advice for firefighters

· Protective equipment: Wear self-contained respiratory protective device.

### 6 Accidental release measures

· 6.1. Personal precautions, protective equipment and emergency procedures Wear protective clothing.

· 6.2. Environmental precautions: No special measures required.

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

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

#### · 6.4. Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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(Contd. on page 3)

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(Contd. of page 2)

## 7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in dry conditions.
- **7.3. Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1. Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
Short term filter device:  
Filter P2.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**  
Natural rubber, NR  
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

GB

(Contd. on page 4)

**Safety data sheet**  
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(Contd. of page 3)

## 9 Physical and chemical properties

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

#### · General Information

#### · Appearance:

Form:	Powder
Colour:	Red-brown
Odour:	Odourless

#### · Change in condition

Melting point/Melting range: undetermined

Boiling point/Boiling range: undetermined

· Flash point: Not applicable

· Flammability (solid, gaseous) Product is not flammable.

· Danger of explosion: Product does not present an explosion hazard.

· Density: Not determined

#### · Solubility in / Miscibility with

Water at 20°C: 1 g/l (0,2 M  $K_3PO_4$  buffer)

· 9.2. Other information No further relevant information available.

## 10 Stability and reactivity

### · 10.1. Reactivity

### · 10.2. Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3. Possibility of hazardous reactions No dangerous reactions known

· 10.4. Conditions to avoid No further relevant information available.

· 10.5. Incompatible materials: No further relevant information available.

· 10.6. Hazardous decomposition products: No dangerous decomposition products known

## 11 Toxicological information

### · 11.1. Information on toxicological effects

#### · Acute toxicity:

#### · Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: No irritating effect.

· Sensitization: Sensitization possible through inhalation.

## 12 Ecological information

### · 12.1. Toxicity

· Aquatic toxicity: No further relevant information available.

· 12.2. Persistence and degradability No further relevant information available.

#### · Behaviour in environmental systems:

· 12.3. Bioaccumulative potential No further relevant information available.

· 12.4. Mobility in soil No further relevant information available.

#### · Additional ecological information:

· General notes: Generally not hazardous for water.

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

· PBT: PBT - assessment not available.

· vPvB: vPvB - assessment not available.

(Contd. on page 5)

**Safety data sheet**  
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(Contd. of page 4)

· 12.6. Other adverse effects No further relevant information available.

**13 Disposal considerations**

- 13.1. Waste treatment methods
- Recommendation  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

**14 Transport information**

- |   |  |
|---|--|
| · 14.1. UN-Number<br>· ADR, ADN, IMDG, IATA                                     | Void   |
| · 14.2. UN proper shipping name<br>· ADR, ADN, IMDG, IATA                       | Void   |
| · 14.3. Transport hazard class(es)<br>· ADR, ADN, IMDG, IATA<br>· Class         | Void   |
| · 14.4. Packing group<br>· ADR, IMDG, IATA                                      | Void   |
| · 14.6. Special precautions for user  | Not applicable.                                      |
| · 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable.                                      |
| · Transport/Additional information:   | Not dangerous according to the above specifications. |
| · UN "Model Regulation":  | -  |

**15 Regulatory information**

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations
- Technical instructions (air):

Class	Share in %
I	80-100

- Water hazard class: Generally not hazardous for water.
- 15.2. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing MSDS: Product safety department
- Contact: +49 6221 13840-35
- Abbreviations and acronyms:  
PBT: persistent, bioaccumulative, toxic substance (REACH)  
vPvB: very persistent, very bioaccumulative substance (REACH)  
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

(Contd. on page 6)

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(Contd. of page 5)

*CLP: Regulation on classification, labelling and packaging of substances and mixtures**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**ICAO: International Civil Aviation Organization**GHS: Globally Harmonized System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)***\* Data compared to the previous version altered.**

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