

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

Printing date 24.05.2023

Version number 4


Revision: 24.05.2023

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

- **1.1 Product identifier**
- **Trade name:** Peroxidase from horseradish min. 1 000 U/mg
- **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**  
No further relevant information available.
- **Application of the substance / the mixture:** 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:**  
Medical Emergency Information in case of poisoning:  
Poison Information Center Mainz - Phone: +49 (0) 6131 19240  
(advisory service in German or English language)

**SERVA**  
■ serving scientists ■

**SECTION 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.*
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**  
The substance is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms:** GHS08
- **Signal word:** Danger
- **Hazard statements:**  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements**
- P261 Avoid breathing dust.
- P284 [In case of inadequate ventilation] wear respiratory protection.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

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· **Determination of endocrine-disrupting properties** No further relevant information available.

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

- **3.1 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%

**SECTION 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. Consult doctor if you feel unwell.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
- **After swallowing:**  
Wash out mouth. Drink plenty of water and supply fresh air. Consult doctor if you feel unwell.
- **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.

**SECTION 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 formed, but not limited to:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation  
Avoid formation of dust.  
Do not inhale dusts.  
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up**  
Dispose contaminated material as waste according to item 13.  
Pick up mechanically.

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- **6.4 Reference to other sections**
- See Section 7 for information on safe handling
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling:**
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of dust.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
- Store at +2 to +8 °C
- Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
- Store in dry conditions.
- Keep receptacle tightly sealed and store in dry conditions.
- **7.3 Specific end use(s):** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **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**
- **Appropriate engineering controls:** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment:**
- **General protective and hygienic measures:**
- Keep away from foodstuffs, beverages and feed.
- Store protective clothing separately.
- Immediately remove all soiled and contaminated clothing
- Avoid contact with the eyes and skin.
- Wash hands before breaks and at the end of work.
- **Breathing equipment:**
- Short term filter device:
- Filter P2.
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Hand protection:**
- 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.

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- **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/face protection:** Safety glasses
- **Body protection:** Protective work clothing.

#### SECTION 9: Physical and chemical properties

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

###### · General Information:

- |  |                          |
|--|--------------------------|
| · <b>Physical state:</b>   | Solid.                   |
| · <b>Colour:</b>   | brown to red-brown       |
| · <b>Odour:</b>  | Odourless                |
| · <b>Odour threshold:</b>  | Not determined.          |
| · <b>Melting point/freezing point:</b>                             | no information available |
| · <b>Boiling point or initial boiling point and boiling range:</b> | no information available |
| · <b>Flammability:</b>   | no information available |
| · <b>Lower and upper explosion limit:</b>                          |                          |
| · <b>Lower:</b>  | no information available |
| · <b>Upper:</b>  | no information available |
| · <b>Flash point:</b>  | no information available |
| · <b>Decomposition temperature:</b>                                | no information available |
| · <b>pH:</b>   | no information available |
| · <b>Viscosity:</b>  |                          |
| · <b>Kinematic viscosity:</b>                                      | no information available |
| · <b>Dynamic viscosity:</b>  | no information available |
| · <b>Solubility:</b>   |                          |
| · <b>Water:</b>  | no information available |
| · <b>Partition coefficient n-octanol/water (log value):</b>        | no information available |
| · <b>Vapour pressure:</b>  | no information available |
| · <b>Density and/or relative density:</b>                          |                          |
| · <b>Density:</b>  | no information available |
| · <b>Relative density:</b>   | no information available |
| · <b>Particle characteristics</b>                                  | No information available |

##### · 9.2 Other information

- |  |  |
|--|--|
| · <b>Appearance:</b>   |  |
| · <b>Form:</b>   | lyophilisate   |
| · <b>Important information on protection of health and environment, and on safety:</b> |  |
| · <b>Explosive properties:</b>   | Product is not explosive. However, formation of explosive dust-/air mixtures are possible. |
| · <b>Molecular weight</b>  | ~40,000 g/mol  |

#### SECTION 10: Stability and reactivity

- **10.1 Reactivity:** No further relevant information available.
- **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:** Avoid high temperatures, flames, sparks
- **10.5 Incompatible materials:** Avoid contact with strong oxidizers.

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· <b>14.2 UN proper shipping name</b> · <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.3 Transport hazard class(es)</b> · <b>ADR, ADN, IMDG, IATA</b> · <b>Class:</b>	Void
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	Void

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** Substance is not listed.
  - **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
  - **REGULATION (EU) 2019/1148**
  - **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
  - **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
  - **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
  - **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
  - **National regulations:**
  - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| I     | 80-100     |
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
  - **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 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 SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of previous version:** 02.05.2018
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation

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*PBT: persistent, bioaccumulative, toxic substance (UK REACH)*

*vPvB: very persistent, very bioaccumulative substance (UK REACH)*

*UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals*

*GB CLP: Regulation on classification, labelling and packaging of substances and mixtures*

*bw: body weight*

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised 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)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Resp. Sens. 1: Respiratory sensitisation – Category 1*

GB