

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.11.2011

Version number 1

Revision: 28.07.2011

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

- **1.1. Product identifier**
- **Trade name:** Proteinase K from Tritirachium album
- **Article number:** 33755
- **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.*

- **Information concerning particular hazards for human and environment:**  
*The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.*
- **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 product is classified and labelled according to the CLP regulation.*
- **Hazard pictograms** GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**  
*Proteinase, Tritirachium album serine*
- **Hazard statements**  
*H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.*
- **Precautionary statements**  
P261 Avoid breathing vapours.  
P285 In case of inadequate ventilation wear respiratory protection.  
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.

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


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- **2.3. Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

### 3 Composition/information on ingredients

- **3.2. Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 39450-01-6	Proteinase, Tritirachium album serine	1-3%
EINECS: 254-457-8	 Xi R36/37/38;  Xn R42  Resp. Sens. 1, H334;  Skin Irrit. 2, H315;  Eye Irrit. 2, H319;  STOT SE 3, H335	

- **Regulation (EC) No 648/2004 on detergents / Labelling for contents**

enzymes	< 5%
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- **Additional information** For the wording of the listed risk phrases refer to section 16.

### 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 rinse with water.
- **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:  
Toxic gases and vapours, heavier than air, spread over the floor.  
Corrosive gas (acrolein)
- **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:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3. Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.

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Ensure adequate ventilation.

· **6.4. Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**

· **Handling**

· **7.1. Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **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 at -15 to -25 °C

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

· **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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **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:**

Protective gloves.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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:**

Chloroprene rubber, CR

Nitrile rubber, NBR

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- **Eye protection:** *Tightly sealed goggles.*
- **Body protection:** *Protective work clothing.*

## 9 Physical and chemical properties

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

#### · General Information

#### · Appearance:

<b>Form:</b>	<i>Solution</i>
<b>Colour:</b>	<i>Colourless</i>
<b>Odour:</b>	<i>Odourless</i>

#### · Change in condition

**Melting point/Melting range:** *undetermined*

**Boiling point/Boiling range:** *undetermined*

· **Flash point:** *Not applicable*

· **Self igniting:** *Product is not selfigniting.*

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

· **Density:** *Not determined*

#### · Solubility in / Miscibility with

**Water:** *Fully miscible*

#### · Solvent content:

<b>Organic solvents:</b>	<i>50.0 %</i>
<b>VOC %:</b>	<i>50.00 %</i>
<b>VOC g/l:</b>	<i>500.0 g/l</i>
<b>9.2. Other information</b>	<i>No further relevant information available.</i>

## 10 Stability and reactivity

· **10.1. Reactivity** *No further relevant informations available*

· **10.2. Chemical stability**

· **Thermal decomposition / conditions to be avoided:** *Protein denaturation*

· **10.3. Possibility of hazardous reactions**

*Reacts with strong oxidizing agents*

*Reacts with strong acids*

· **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.*

· **Additional toxicological information:**

*The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:*

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Harmful

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### 12 Ecological information

- **12.1. Toxicity**
- **Acquatic 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:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |  |  |
|--|--|
| · <b>14.1. UN-Number</b><br>· <b>ADR, ADN, IMDG, IATA</b>                                    | Void   |
| · <b>14.2. UN proper shipping name</b><br>· <b>ADR, ADN, IMDG, IATA</b>                      | Void   |
| · <b>14.3. Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | Void   |
| · <b>14.4. Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | Void   |
| · <b>14.5. Environmental hazards:</b><br>· <b>Marine pollutant:</b>                          | No   |
| · <b>14.6. Special precautions for user</b>  | Not applicable.                                      |
| · <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>       | Not applicable.                                      |
| · <b>Transport/Additional information:</b>   | Not dangerous according to the above specifications. |
| · <b>UN "Model Regulation":</b>  | -  |

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### 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	1-3
NK	40-70

· **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.

### 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.*

· **Relevant phrases**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H335 May cause respiratory irritation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R42 May cause sensitisation by inhalation.

· **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

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

· **\* Data compared to the previous version altered.**

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