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

1.1 Product identifier

- **Trade name:** Trypsin 1:250 from bovine pancreas
- **Article number:** 37289
- **CAS Number:** 9002-07-7
- **EC number:** 232-650-8
- **Index number:** 647-010-00-7

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)

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.

- **GHS07**
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2 H319 Causes serious eye irritation.
  - STOT SE 3 H335 May cause respiratory irritation.

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** GHS07, GHS08
- **Signal word** Danger
- **Hazard statements**
  - 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.

(Contd. on page 2)
Trade name: Trypsin 1:250 from bovine pancreas

- Precautionary statements
  P261 Avoid breathing dust.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P302+P352 IF ON SKIN: Wash with plenty of soap and water.
  P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

- Labelling of packages where the contents do not exceed 125 ml
  - Hazard pictograms GHS07, GHS08
  - Signal word Danger
- Hazard statements
  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
- Precautionary statements
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- 2.3 Other hazards
  - Results of PBT and vPvB assessment
    - PBT: PBT - assessment not available.
    - vPvB: vPvB - assessment not available.

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
- CAS No. Description:
  9002-07-7 Trypsin
- Identification number(s):
  - EC number: 232-650-8
  - Index number: 647-010-00-7

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.
    Remove contaminated clothing immediately.
  - 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.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- Suitable extinguishing agents
  CO₂, 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 (NOₓ)
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective clothing.
Ensure adequate ventilation
Avoid formation of dust.
6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.
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 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.
Wear respiratory protection.
Avoid contact with eyes and skin.
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 -15 to -25 °C
Information about storage in one common storage facility: Not required.
Further information about storage conditions:
Keep receptacle tightly sealed and store in dry conditions.
Protect from direct sunlight.
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
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
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
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 trough 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form:
lyophilisate
Colour:
White
Odour:
Odourless

pH-value (10 g/l) :
3-5

Change in condition
Melting point/freezing point:
undetermined
Initial boiling point and boiling range:
undetermined

Flash point:
Not applicable

Flammability (solid, gaseous)
Product is not flammable.

Ignition temperature:
Decomposition temperature:
> 40 °C

Explosive properties:
Product does not present an explosion hazard.

Density:
Not determined

Solubility in/Miscibility with
Water at 20 °C:
10 g/l

9.2 Other information
No further relevant information available.

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.
Thermal decomposition: > 40 °C

10.3 Possibility of hazardous reactions
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk
of dust explosion
Trade name: Trypsin 1:250 from bovine pancreas

· 10.4 Conditions to avoid high temperatures
· 10.5 Incompatible materials: No further relevant information available.
· 10.6 Hazardous decomposition products: In case of fire: See Section 5

*SECTION 11: Toxicological information*

· 11.1 Information on toxicological effects
· Acute toxicity: Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9002-07-7 Trypsin</td>
</tr>
</tbody>
</table>

· Primary irritant effect:
· Skin corrosion/irritation
Causes skin irritation.
· Serious eye damage/irritation
Causes serious eye irritation.
· Respiratory or skin sensitisation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
· Germ cell mutagenicity: Based on available data, the classification criteria are not met.
· Carcinogenicity: Based on available data, the classification criteria are not met.
· Reproductive toxicity: Based on available data, the classification criteria are not met.
· STOT-single exposure
May cause respiratory irritation.
· STOT-repeated exposure: Based on available data, the classification criteria are not met.
· Aspiration hazard: Based on available data, the classification criteria are not met.

*SECTION 12: Ecological information*

· 12.1 Toxicity
· Aquatic toxicity: No further relevant information available.
· 12.2 Persistence and degradability: No further relevant information available.
· 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 product 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.

*SECTION 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.
  Disposal must be made according to official regulations.
· Uncleaned packagings:
· Recommendation:
  Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
Trade name: Trypsin 1:250 from bovine pancreas

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

---

### SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR, ADN, IMDG, IATA: Void

- **14.2 UN proper shipping name**
  - ADR: Void
  - ADN, IMDG, IATA: Void

- **14.3 Transport hazard class(es)**
  - ADR, IMDG, IATA: Void
  - Class: Void
  - Label: -
  - ADN/R Class: Void

- **14.4 Packing group**
  - ADR, IMDG, IATA: Void

- **14.5 Environmental hazards:** Not applicable.

- **14.6 Special precautions for user**
  - Not applicable.

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
  - Not applicable.

- **Transport/Additional information:** Not dangerous according to the above specifications.

- **UN "Model Regulation":** Void

---

### SECTION 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:** 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

- **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
  - 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)
  - IMDG: International Maritime Code for Dangerous Goods
**Trade name: Trypsin 1:250 from bovine pancreas**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonised System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation – Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation – Category 2</td>
</tr>
<tr>
<td>Resp. Sens. 1</td>
<td>Respiratory sensitisation – Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
</tbody>
</table>

* Data compared to the previous version altered.