

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

- **Product identifier**
- **Trade name:** **Trypsin**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bruker Biosciences Pty Ltd  
1/28A Albert Street  
PRESTON, VICTORIA 3072  
AUSTRALIA
- **Informing department:**  
Telephone: +61 3 9474 7000 ; 1800 278537  
Fax: +61 3 9474 7070
- **Emergency telephone number:** Emergency Phone : +61 3 9474 7000 ; 1800 278537 ; +49 421 2205 0

**2 Hazards identification**

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

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.

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



Xi; Irritant

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



Xn; Sensitising

R42: May cause sensitisation by inhalation.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

- **Code letter and hazard designation of product:**



Xn Harmful

- **Hazard-determining components of labelling:**

Trypsin

- **Risk phrases:**

36/37/38 Irritating to eyes, respiratory system and skin.

42 May cause sensitisation by inhalation.

- **Safety phrases:**

22 Do not breathe dust.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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- 28 After contact with skin, wash immediately with plenty of soap and water.
- 36/37 Wear suitable protective clothing and gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.
- **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Description:** Mixture consisting of the following components.

· **Dangerous components:**

CAS: 10035-04-8 EINECS: 233-140-8 Index number: 017-013-00-2	Calciumchlorid-2-hydrat ☒ Xi R36 ⚠ Eye Irrit. 2, H319	50-100%
CAS: 9002-07-7 EINECS: 232-650-8 Index number: 647-010-00-7	Trypsin ☒ Xi R36/37/38; ☒ Xn R42 ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-25%

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

**4 First aid measures**

- **Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**  
Instantly rinse with water.  
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; instantly call for medical help.
- **Information for doctor** No particular measures are known - treat according to symptoms.

**5 Firefighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards arising from the substance or mixture**  
Can be released in case of fire  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide (CO)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**
  - Ensure adequate ventilation
  - Avoid causing dust.
  - Wear protective clothing.
- **Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **Methods and material for containment and cleaning up:**
  - Collect mechanically.
  - Dispose of contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
- **Reference to other sections** Clean the accident area carefully.

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling**
  - Keep containers tightly sealed.
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
  - Store in cool location.
  - Store only in the original container.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
  - Store the product at temperatures < 0 °C
  - Keep container tightly sealed.
  - Protect from humidity and keep away from water.
- **Storage class** 11

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **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 compilation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
  - Keep away from foodstuffs, beverages and food.
  - Wash hands during breaks and at the end of the work.
  - Avoid contact with the eyes and skin.
  - Take off immediately all contaminated clothing
  - Store protective clothing separately.
- **Breathing equipment:** If dust is produced.
- **Recommended filter device for short term use:**



Filter P1

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· **Protection of hands:**

Only use chemical-protective gloves with CE-labelling of category III.

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

Preventive skin protection by use of skin-protecting agents is recommended.

· **Material of gloves**

Nitrile rubber, NBR

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.

· **Not suitable are gloves made of the following materials:**

Leather gloves

Strong gloves

· **Eye protection:**

Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

**Form:** Powder  
lyophilized

**Colour:** Whitish

· **Odour:** Odourless

· **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** Not determined

· **Flash point:** Not applicable

· **Danger of explosion:** Product is not explosive.

· **Density** Not determined

· **Solubility in / Miscibility with**

**Water:** Partly soluble

## 10 Stability and reactivity

· **Reactivity**· **Chemical stability**

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

· **Possibility of hazardous reactions** No dangerous reactions known

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- **Incompatible materials:**
  - strong oxidizing agents
  - strong acids
  - strong bases
- **Hazardous decomposition products:** none, if stored and handled correctly.

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**10035-04-8 Calciumchlorid-2-hydrat**

Dermal | LD50 | 2630 mg/kg (rab)

**9002-07-7 Trypsin**

Oral | LD50 | &gt; 5000 ml/kg (rat)

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Irritant effect.
- **Sensitization:** Sensitization possible by inhalation.
- **Additional toxicological information:**

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

Harmful  
Irritant

**12 Ecological information**

- **Toxicity**

- **Acquatic toxicity:**

**10035-04-8 Calciumchlorid-2-hydrat**EC50 | > 100 mg/l (bacteria)  
(48h) 144 mg/l (Daphnia magna)

IC50 | (120h) 3130 mg/l (Alge)

LC50 (96h) | 10650 mg/l (Lepomis macrochirus (bluegill))

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** Not determined
- **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 bodies or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation** Must be specially treated under adherence to official regulations.

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· **European waste catalogue**

18 00 00	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)
18 02 00	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 05	chemicals consisting of or containing dangerous substances

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

- **Land transport ADR/RID (cross-border)**
- **ADR/RID-GGVS/E Class:** -

- **Maritime transport IMDG:**
- **IMDG Class:** -

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

- **UN "Model Regulation":** -
- **Special precautions for user** Not applicable.
- **Transport/Additional information:** Not dangerous according to the above specifications.

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Changes made since last issue dated 17.08.2007 at the following points: \*

· **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 Irritating to eyes.  
 R36/37/38 Irritating to eyes, respiratory system and skin.  
 R42 May cause sensitisation by inhalation.

· **Department issuing data specification sheet:**

IGG-AD Ingenieurbüro für Gefahrstoff- und Gefahrgutberatung  
 Bismarckstraße 10  
 D-68623 Lampertheim  
 Fax: 0049-(0)6206-58422      <http://www.igg-ad.de>      [info@igg-ad.de](mailto:info@igg-ad.de)

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**· Abbreviations and acronyms:**

*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*

*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*

*ICAO: International Civil Aviation Organization*

*ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)*

*GHS: Globally Harmonized System of Classification and Labelling of Chemicals*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

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