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

*Printing date 28.11.2011* *Version number 1* *Revision: 27.07.2011*

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

· **1.1. Product identifier**

· **Trade name: Clostripain NB from Clostridium histolyticum**
· **Synonyma** Clostridiopeptidase B

· **Article number:** 17335
· **CAS Number:**
9028-00-6
· **EC number:**
232-822-2
· **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)

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## 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.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.
· **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon fom 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** GHS07, GHS08
· **Signal word** Danger

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SERVA Electrophoresis GmbH

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· ***Hazard statements***
*H315 Causes skin irritation.*
*H319 Causes serious eye irritation.*
*H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.*
*H317 May cause an allergic skin reaction.*
*H335 May cause respiratory irritation.*
· ***Precautionary statements***

| | |
|---|---|
| *P280* | *Wear protective gloves/protective clothing/eye protection/face protection.* |
| *P285* | *In case of inadequate ventilation wear respiratory protection.* |
| *P304+P340* | *IF INHALED: Remove victim to fresh air and keep at rest in a position 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.* |
| *P302+P352* | *IF ON SKIN: Wash with plenty of soap and water.* |
| *P342+P311* | *If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.* |

· ***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*

· ***3.1. Chemical characterization: Substances***
· ***CAS No. Description:***
*9028-00-6 Clostripain*
· ***Identification number(s):***
· ***EC number:*** *232-822-2*
· ***Description:***
· ***MW:*** *ca. 59000*

* 
## *4 First aid measures*

· ***4.1. Description of first aid measures***
· ***After inhalation*** *Supply fresh air and to be sure call for a doctor.*
· ***After skin contact*** *Immediately rinse with water.*
· ***After eye contact*** *Rinse opened eye for several minutes under running water. Then consult doctor.*
· ***After swallowing*** *Drink copious amounts of water and provide fresh air. Call for doctor immediately.*
· ***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.*

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## *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 released:*
*Nitrogen oxides (NOx)*
*Carbon monoxide and carbon dioxide*

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· ***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:*** *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.*
*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 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 at -15 to -25 °C*
· ***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.*
*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:***
*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*

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· ***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.*

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## 9 Physical and chemical properties

| | |
|---|---|
| · ***9.1. Information on basic physical and chemical properties*** | |
| · ***General Information*** | |
| · ***Appearance:*** | |
| ***Form:*** | *Powder* |
| ***Colour:*** | *Light 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:*** | *Soluble* |
| · ***9.2. Other information*** | *No further relevant information available.* |

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## 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*** *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:*** *Irritant to skin and mucous membranes.*
· ***on the eye:*** *Irritating effect.*
· ***Sensitization:***
*Sensitization possible through inhalation.*

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*Sensitization possible through skin contact.*

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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.

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## 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 |
| · **14.5. Environmental hazards:**<br>· **Marine pollutant:** | No |
| · **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":** | - |



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## 15 Regulatory information

· ***15.1. 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.*
· ***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*
*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.***