

2360200

Revision: 04.01.2018  
Printing date: 04.01.2018

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

- Product identifier
- Trade name:  
Hirudin (54-65) (sulfated)
- Article number:  
new: 4014553      old: H-7425
- CAS Number:  
109528-49-6
- 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:  
Bachem AG  
Hauptstrasse 144  
CH-4416 Bubendorf  
Switzerland  
E-mail msds@bachem.com  
Tel +41 58 595 2021  
Fax +41 58 595 2040
- Further information obtainable from:  
Department: Marketing
- Emergency telephone number:  
+41 44 251 51 51 (Tox Info Suisse)

## 02 Hazards identification

- Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008  
Void
- Label elements
- Labelling according to Regulation (EC) No 1272/2008  
Void
- Signal word  
Void
- Hazard statements  
Void
- Other hazards
- Results of PBT and vPvB assessment
- PBT:  
Not applicable.
- vPvB:  
Not applicable.

## 03 Composition/information on ingredients

- Chemical characterization: Substances
- | <b>CAS No.</b> | <b>Description</b>         |
|----------------|----------------------------|
| 109528-49-6    | Hirudin (54-65) (sulfated) |
- Identification number(s)
- EC number:  
-
- RTECS Number:  
-

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## 04 First aid measures

- 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.
- After eye contact:  
Rinse opened eye for several minutes under running water.
- After swallowing:  
Call a doctor immediately.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed  
No further relevant information available.
- Indication of any immediate medical attention and special treatment needed  
No further relevant information available.

## 05 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:  
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture  
No further relevant information available.
- Advice for firefighters
- Protective equipment:  
No special measures required.

## 06 Accidental release measures

- Personal precautions, protective equipment and emergency procedures  
Not required.
- Environmental precautions:  
No special measures required.
- Methods and material for containment and cleaning up:  
Pick up mechanically.
- Reference to other sections

## 07 Handling and storage

- Handling:
- Precautions for safe handling  
Prevent formation of dust.
- Information about fire - and explosion protection:  
No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and receptacles:  
No special requirements.
- Information about storage in one common storage facility:  
Store away from foodstuffs.
- Further information about storage conditions:  
Store in dry conditions.
- Recommended storage temperature:  
< -15 °C
- Specific end use(s)  
No further relevant information available.

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## 08 Exposure controls/personal protection

- Control parameters
- Ingredients with limit values that require monitoring at the workplace:
  
- Additional information:  
The lists valid during the making were used as basis.
  
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:  
The usual precautionary measures are to be adhered to when handling chemicals.
- Respiratory protection:  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.  
Use suitable respiratory protective device in case of insufficient ventilation.
- 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  
Protective gloves
- 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.
- Eye protection:  
Safety glasses

## 09 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

##### Appearance:

<b>Form:</b>	Lyophilisate
<b>Colour:</b>	White
<b>Odour:</b>	Nearly odourless
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.

##### Change in condition

**Boiling point/Boiling range:** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

##### Ignition temperature:

**Decomposition temperature:** Not determined.

**Self-igniting:** Not determined.

**Danger of explosion:** Not determined.

##### Explosion limits:

**Lower:** Not determined.

**Upper:** Not determined.

**Vapour pressure:** Not determined.

**Density:** Not determined.

##### Solubility in / Miscibility with

**water:** at 25 °C 1,00 g/l

##### Viscosity:

**Dynamic:** Not determined.

**Kinematic:** Not determined.

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**Other information**

No further relevant information available.

## 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.
- Conditions to avoid  
No further relevant information available.
- Incompatible materials:  
No further relevant information available.
- Hazardous decomposition products:  
No dangerous decomposition products known.

## 11 Toxicological information

- Information on toxicological effects
- Acute toxicity:  
No further relevant information available.
- Primary irritant effect:
- on the skin:  
No further relevant information available.
- on the eye:  
No further relevant information available.
- Sensitization:  
No sensitising effects known.
- Additional toxicological information:  
The substance is not subject to classification according to the latest version of the EU lists.

## 12 Ecological information

- Toxicity
- Aquatic toxicity:  
No further relevant information available.
- 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.
- Additional ecological information:
- General notes:  
Not known to be hazardous to water.
- Results of PBT and vPvB assessment
- PBT:  
Not applicable.
- vPvB:  
Not applicable.
- Other adverse effects  
No further relevant information available.

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## 13 Disposal considerations

- Waste treatment methods
- Uncleaned packaging:
- Recommendation:  
Disposal must be made according to official regulations.

## 14 Transport information

- UN-Number  
**ADR** Void  
**IMDG** Void  
**IATA** Void
- UN proper shipping name  
**ADR** Void  
**IMDG** Void  
**IATA** Void
- Transport hazard class(es)  
**ADR**  
**Class** Void  
**IMDG**  
**Class** Void  
**IATA**  
**Class** Void
- Packing group  
**ADR** Void  
**IMDG** Void  
**IATA** Void
- Environmental hazards:  
Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
Not applicable.
- Transport/Additional information:  
Not applicable.

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:
- Waterhazard class:  
Generally not hazardous for water.
- 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:  
Department: Marketing
- Abbreviations and acronyms:

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

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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 Organisation

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

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

RTECS: Registry of Toxic Effects of Chemical Substances

WGK: Wassergefährdungsklasse

- \* Data compared to the previous version altered.