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

Printing date 25.11.2011 *Version number 1* *Revision: 27.10.2011*

*

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

· **1.1. Product identifier**

· **Trade name: Insulin, recombinant human, min. 27.5 IU/mg**

· **Article number:** 26360
· **CAS Number:**
11061-68-0
· **EC number:**
234-279-7
· **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)

2 Hazards identification

· **2.1. Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified according to the CLP regulation.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
· **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** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3. Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SERVA Electrophoresis GmbH

3 Composition/information on ingredients

· **3.1. Chemical characterization: Substances**
· **CAS No. Description:**
11061-68-0 insulin (human)
· **Identification number(s):**
· **EC number:** 234-279-7
· **Description:**
· **Empirical formula:** $C_{257}H_{383}N_{65}O_{77}S_6$
· **MW:** ca. 5800

(Contd. on page 2)

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

Printing date 25.11.2011 *Version number 1* *Revision: 27.10.2011*

Trade name: Insulin, recombinant human, min. 27.5 IU/mg

(Contd. of page 1)

4 First aid measures

· **4.1. Description of first aid measures**
· **General information** No special measures required.
· **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**
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)
Sulphur dioxide (SO2)
Carbon monoxide and carbon dioxide
· **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:** No special measures required.
· **6.3. Methods and material for containment and cleaning up:** Pick up mechanically.
· **6.4. Reference to other sections** No dangerous substances are released.

*
7 Handling and storage

· **Handling**
· **7.1. Precautions for safe handling** 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.

(Contd. on page 3)

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

Printing date 25.11.2011 *Version number 1* *Revision: 27.10.2011*

Trade name: Insulin, recombinant human, min. 27.5 IU/mg

(Contd. of page 2)

· ***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***
The usual precautionary measures should be adhered to when handling chemicals.
· ***Breathing equipment:*** *Suitable respiratory protective device recommended.*
· ***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.*

9 Physical and chemical properties

· ***9.1. Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Crystalline powder*
Colour:	*White*
· ***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.*

10 Stability and reactivity

· ***10.1. Reactivity***
· ***10.2. Chemical stability***
· ***Thermal decomposition / conditions to be avoided:***
No decomposition if used according to specifications.

(Contd. on page 4)

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

Printing date 25.11.2011 *Version number 1* *Revision: 27.10.2011*

Trade name: Insulin, recombinant human, min. 27.5 IU/mg

(Contd. of page 3)

To avoid thermal decomposition do not overheat.
· ***10.3. Possibility of hazardous reactions*** *Reacts with acids, alkalis and oxidizing agents*
· ***10.4. Conditions to avoid*** *No further relevant information available.*
· ***10.5. Incompatible materials:*** *No further relevant information available.*
· ***10.6. Hazardous decomposition products:***
Nitrogen oxides
Sulphur oxides (SOx)
Carbon monoxide and carbon dioxide

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:*** *No sensitizing effects known.*
· ***Additional toxicological information:***
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
The substance is not subject to classification according to the latest version of the EU lists.

*
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:*** *Generally not hazardous for water.*
· ***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 be specially treated adhering to official regulations.*

· ***Uncleaned packagings:***
· ***Recommendation:*** *Disposal must be made according to official regulations.*
· ***Recommended cleansing agent:*** *Water, if necessary with cleansing agents.*

14 Transport information

· ***14.1. UN-Number***	
· ***ADR, ADN, IMDG, IATA***	*Void*
· ***14.2. UN proper shipping name***	
· ***ADR, ADN, IMDG, IATA***	*Void*

(Contd. on page 5)

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

Printing date 25.11.2011 *Version number 1* *Revision: 27.10.2011*

Trade name: Insulin, recombinant human, min. 27.5 IU/mg

(Contd. of page 4)

· **14.3. Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4. Packing group**	
· **ADR, IMDG, IATA**	Void
· **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":**	-

15 Regulatory information

· **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations**

· **Water hazard class:** Generally not 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.**