1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: Glycogen, from bovine liver

Product Number: G0885
Brand: Sigma
CAS-No.: 9005-79-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Chemie BV
Stationsplein 4
3331 LL ZWIJNDRECHT
NETHERLANDS

Telephone: +31 78-620-5411
Fax: +31 78-620-5421
E-mail address: eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone #: 112

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2 Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.
4.2 Most important symptoms and effects, both acute and delayed
4.3 Indication of any immediate medical attention and special treatment needed
   no data available

5. FIREFIGHTING MEASURES
5.1 Extinguishing media
   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
   Carbon oxides
5.3 Advice for firefighters
   Wear self contained breathing apparatus for fire fighting if necessary.
5.4 Further information
   no data available

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
   Avoid dust formation. Avoid breathing vapors, mist or gas.
6.2 Environmental precautions
   Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up
   Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
   For disposal see section 13.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
   Provide appropriate exhaust ventilation at places where dust is formed.
7.2 Conditions for safe storage, including any incompatibilities
   Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
   Recommended storage temperature: 2 - 8 °C
7.3 Specific end uses
   no data available

8. EXPOSURE CONTROLS/PERSOAL PROTECTION
8.1 Control parameters
   Components with workplace control parameters
8.2 Exposure controls
   Appropriate engineering controls
   General industrial hygiene practice.
   Personal protective equipment
      Eye/face protection
      Use equipment for eye protection tested and approved under appropriate government standards
      such as NIOSH (US) or EN 166(EU).
      Skin protection
      The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and
      the standard EN 374 derived from it.
      Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique
      (without touching glove's outer surface) to avoid skin contact with this product. Dispose of
contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. **PHYSICAL AND CHEMICAL PROPERTIES**

9.1 **Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Appearance</strong></td>
<td>Form: crystalline</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Colour: beige</td>
</tr>
<tr>
<td><strong>b) Odour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>c) Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>d) pH</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>e) Melting point/freezing point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>f) Initial boiling point and boiling range</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>g) Flash point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>h) Evaporation rate</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>i) Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>j) Upper/lower flammability or explosive limits</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>k) Vapour pressure</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>l) Vapour density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>m) Relative density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>n) Water solubility</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>o) Partition coefficient: n-octanol/water</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>p) Autoignition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>q) Decomposition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>r) Viscosity</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>s) Explosive properties</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>t) Oxidizing properties</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>

9.2 **Other safety information**
no data available

10. **STABILITY AND REACTIVITY**

10.1 **Reactivity**
no data available
10.2 Chemical stability  
no data available

10.3 Possibility of hazardous reactions  
no data available

10.4 Conditions to avoid  
no data available

10.5 Incompatible materials  
Strong oxidizing agents

10.6 Hazardous decomposition products  
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity  
no data available

Skin corrosion/irritation  
no data available

Serious eye damage/eye irritation  
no data available

Respiratory or skin sensitization  
no data available

Germ cell mutagenicity  
no data available

Carcinogenicity  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity  
Reproductive toxicity - mouse - Intrauterine  
Maternal Effects: Uterus, cervix, vagina. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Specific target organ toxicity - single exposure  
no data available

Specific target organ toxicity - repeated exposure  
no data available

Aspiration hazard  
no data available

Potential health effects

Inhalation  
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion  
May be harmful if swallowed.

Skin  
May be harmful if absorbed through skin. May cause skin irritation.

Eyes  
May cause eye irritation.

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity  
no data available

12.2 Persistence and degradability  
no data available
12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: -  IMDG: -  IATA: -

14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)
ADR/RID: -  IMDG: -  IATA: -

14.4 Packaging group
ADR/RID: -  IMDG: -  IATA: -

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

Further information
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