Material Safety Data Sheet

Section 1 - Product and Company Information

Product Name: GLYCOGEN TYPE II FROM OYSTER
Product Number: G8751
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3950 Sague Street
City, State, Zip, Country: St. Louis, MO, 63103, US
Technical Phone: 314 771 5765
Fax: 600 325 5052
Emergency Phone: 414 273 3850 Ext.5996

Section 2 - Composition/Information on Ingredient

Substance Name: D-GLYCOGEN, EX MAMMALIAN LIVER
CAS #: 9005-78-2
SARA 313: No
Formula: Animal starch. Liver starch, Lyoglycogen, Phyoglycogen

Section 3 - Hazards Identification

For additional information on toxicity, please refer to Section 11

Section 4 - First Aid Measures

Oral Exposure: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure: In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure: In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Flammability: N/A

Extinguishing Media: Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s):
Exits toxic fumes under fire conditions.

Methods for Cleaning Up:
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling:
User Exposure:
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage:
Suitable
Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

Engineering Controls:
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment:
Respiratory:
NIOSH/MSHA-approved respirator.

Hand:
Compatible chemical-resistant gloves.

Eye:
Chemical safety goggles.

General Hygiene Measures:
Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Appearance: Fine crystals
Color: Faintly beige
Form: Fine crystals

Molecular Weight: N/A

Property: Value
pH: N/A
BP/SP Range: N/A
MP/MP Range: 270 °C
Freezing Point: N/A
Vapor Pressure: N/A
Vapor Density: N/A
Saturated Vapor Conc.: N/A
SG/Density: N/A
Bulk Density: N/A

Sigma Chemical - G8751
Sigma-Aldrich Corporation
www.sigma-aldrich.com
Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Proper Shipping Name: None
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

United States Regulatory Information
SARA 313 Listed: No

TSCA Inventory Item: Yes

Section 16 - Other Information

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 1999 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

Section 10 - Stability and Reactivity

Stability
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.

Eye Contact
May cause eye irritation.

Multiple Routes
May be harmful by inhalation, ingestion, or skin absorption.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: MC2700000

Chronic Exposure - Reproductive Hazard

<table>
<thead>
<tr>
<th>Species</th>
<th>Dose</th>
<th>Route of Application</th>
<th>Exposure Time</th>
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<tbody>
<tr>
<td>Mouse</td>
<td>20 MO/kg</td>
<td>Intrauterine</td>
<td>(20 PED)</td>
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Result: 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 corpus lutea).

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.