SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

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

1.1 Product identifier

Product name: Sephadex™ G-50 Fine, 100 g

Catalogue Number: 17-0042-01

EC number: 232-677-5

CAS number: 9004-54-0

Product description: Not available.

Product type: Powder.

Other means of identification: Bead-formed crosslinked Dextran

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

Use in laboratories

1.3 Details of the supplier of the safety data sheet

Supplier: GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire HP7 9NA
England
+44 0870 606 1921

Person who prepared the MSDS: msdslifesciences@ge.com

Hours of operation: 08.30 - 17.00

National advisory body/Poison Centre

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org.

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact:
In England and Wales: NHS Direct - 0845 464 4647 or 111
In Scotland: NHS 24 - 08455 24 24 24
In Northern Ireland: Contact your local GP or pharmacist during normal hours; click here www.gpoutofhours.hscni.net/ for GP services Out-of-Hours.
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition  
Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]  
Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Classification according to Directive 67/548/EEC [DSD]  
Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms  
No signal word.

Hazard statements  
No known significant effects or critical hazards.

Precautionary statements

Prevention  
Not applicable.

Response  
Not applicable.

Storage  
Not applicable.

Disposal  
Not applicable.

Supplemental label elements  
Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles  
Not applicable.

Special packaging requirements  
Not applicable.

Tactile warning of danger  
Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
No.  
P: Not available. B: Not available. T: No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
Not available.

Other hazards which do not result in classification  
Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

Substance/mixture  
Mono-constituent substance

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextran</td>
<td>EC: 232-677-5 CAS: 9004-54-0</td>
<td>100</td>
<td>Not classified.</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
SECTION 4: First aid measures

4.1 Description of first aid measures

| Eye contact | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Inhalation  | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| Skin contact| Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

Protection of first-aiders
No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

| Eye contact | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. |
| Inhalation  | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| Skin contact| No known significant effects or critical hazards. |
| Ingestion   | No known significant effects or critical hazards. |

Over-exposure signs/symptoms

| Eye contact | Adverse symptoms may include the following: irritation, redness |
| Inhalation  | Adverse symptoms may include the following: respiratory tract irritation, coughing |
| Skin contact| No specific data. |
| Ingestion   | No specific data. |

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments
No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use dry chemical powder.

Unsuitable extinguishing media
Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
No specific data.

5.3 Advice for firefighters

Special precautions for firefighters
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.

For emergency responders
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel”.

6.2 Environmental precautions
Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill
Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill
Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections
See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures
Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.

Advice on general occupational hygiene
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 4 to 30°C (39.2 to 86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations
Liquid chromatography. Research and Development Analytical chemistry.

Industrial sector specific solutions
Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits
No exposure limit value known.

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy; European Standard EN 14042 Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents; European Standard EN 482 Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
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**8.2 Exposure controls**

**Appropriate engineering controls**

*Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.*

**Individual protection measures**

**Hygiene measures**

*Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.*

**Eye/face protection**

*Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.*

**Skin protection**

**Hand protection**

*Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.*

**Body protection**

*Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.*

**Other skin protection**

*Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.*

** Respiratory protection**

*Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.*

**Environmental exposure controls**

*Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.*

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**SECTION 9: Physical and chemical properties**

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

**Appearance**

**Physical state**

*Solid. [Solid beads.]*

**Colour**

*White to yellowish.*

**Odour**

*Odourless.*

**Odour threshold**

*Not available.*

**pH**

*Not applicable.*

**Melting point/freezing point**

*Not available.*

**Initial boiling point and boiling range**

*Not available.*

**Flash point**

*[Product does not sustain combustion.]*

**Evaporation rate**

*Not applicable.*

**Flammability (solid, gas)**

*Not available.*

** Burning time**

*Not available.*

** Burning rate**

*Not available.*

**Upper/lower flammability or explosive limits**

*Not available.*

**Vapour pressure**

*Not applicable.*

**Vapour density**

*Not available.*

**Relative density**

*Not available.*

**Solubility(ies)**

*Insoluble in the following materials: cold water, hot water, methanol and acetone.*

**Partition coefficient: n-octanol/ water**

*Not available.*
9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
The product is stable.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.

10.5 Incompatible materials
Reactive or incompatible with the following materials: oxidizing materials

10.6 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Conclusion/Summary: Not available.

Inhalation/Corrosion
Conclusion/Summary: Not available.

Sensitisation
Conclusion/Summary: Not available.

Mutagenicity
Conclusion/Summary: Not available.

Carcinogenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

Teratogenicity
Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation
Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Ingestion
No known significant effects or critical hazards.

Skin contact
No known significant effects or critical hazards.

Eye contact
Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
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Potential chronic health effects

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

General

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

Not available.

Conclusion/Summary

Not available.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary

Not available.

12.2 Persistence and degradability

Conclusion/Summary

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (KOC) Not available.

Mobility

Not available.

12.5 Results of PBT and vPvB assessment

PBT

No.

P: Not available. B: Not available. T: No.

vPvB

Not available.

vP: Not available. vB: Not available.

12.6 Other adverse effects

No known significant effects or critical hazards.
SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

**Product**

**Methods of disposal**

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste**

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

**Packaging**

**Methods of disposal**

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions**

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
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</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard classes</td>
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<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
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<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
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<td>-</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user

Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

SECTION 15: Regulatory information

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

**EU Regulation (EC) No. 1907/2006 (REACH)**

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Other EU regulations
Sephadex™ G-50 Fine, 100 g

<table>
<thead>
<tr>
<th>Europe Inventory</th>
<th>This material is listed or exempted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black List Chemicals</td>
<td>Not listed</td>
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<tr>
<td>Priority List Chemicals</td>
<td>Not listed</td>
</tr>
<tr>
<td>Integrated pollution prevention and control list (IPPC) - Air</td>
<td>Not listed</td>
</tr>
<tr>
<td>Integrated pollution prevention and control list (IPPC) - Water</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Seveso II Directive
This product is not controlled under the Seveso II Directive.

Chemical Weapons Convention List Schedule I Chemicals
Not listed

Chemical Weapons Convention List Schedule II Chemicals
Not listed

Chemical Weapons Convention List Schedule III Chemicals
Not listed

15.2 Chemical Safety Assessment
Not available.

SECTION 16: Other information

Abbreviations and acronyms
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

Full text of abbreviated H statements | Not applicable.
Full text of classifications [CLP/GHS] | Not applicable.
Full text of abbreviated R phrases | Not applicable.
Full text of classifications [DSD/DPD] | Not applicable.

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Version | 6

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.