1 Identification

· Product identifier
  · Trade name: TISSUE FREEZING MEDIUM
  · Article number: 72592, 72593
  · Application of the substance / the mixture Laboratory chemicals

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    Electron Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400  Fax: 215-412-8450
    email: sgkeck@aol.com
    www.emsdiasum.com

· Information department: Product safety department

· Emergency telephone number:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture
  The product is not classified, according to the Globally Harmonized System (GHS).

· Label elements
  · GHS label elements Void
  · Hazard pictograms Void
  · Signal word Void
  · Hazard statements Void

· Precautionary statements
  Store in a well-ventilated place. Keep container tightly closed.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:
  · NFPA ratings (scale 0 - 4)
    Health = 0
    Fire = 0
    Reactivity = 0

  · HMIS-ratings (scale 0 - 4)
    HEALTH 0 Health = 0
    FIRE 0 Fire = 0
    REACTIVITY 0 Reactivity = 0

· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures
  · Description: Mixture of the substances listed below with nonhazardous additions.
4 First-aid measures

- 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: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: If symptoms persist consult doctor.

- 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.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.

- Special hazards arising from the substance or mixture: No further relevant information available.

- Advice for firefighters

- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.

- Environmental precautions:
  - Dilute with plenty of water.
  - Do not allow to enter sewers/surface or ground water.

- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Ensure adequate ventilation.

- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

- Protective Action Criteria for Chemicals

- PAC-1:
  - 25322-68-3 Polyethylene glycol 30 mg/m³

- PAC-2:
  - 25322-68-3 Polyethylene glycol 1,300 mg/m³

- PAC-3:
  - 25322-68-3 Polyethylene glycol 7,700 mg/m³
Trade name: TISSUE FREEZING MEDIUM

7 Handling and storage

- Handling:
- Precautions for safe handling:
  No special measures required.
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
- Information about protection against explosions and fires: 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: Not required.
  - Further information about storage conditions: Keep receptacle tightly sealed.
- 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.
- Control parameters:
- Components with limit values that require monitoring at the workplace:

| 25322-68-3 Polyethylene glycol |
|----------------|----------------|
| WEEL Long-term value: 10 mg/m³ |
| (H); MW>200 |

- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls:
- Personal protective equipment:
- General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing.
  Avoid contact with the eyes.
  Avoid contact with the eyes and skin.
- Breathing equipment:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- 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.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td>Form: Viscous</td>
<td></td>
</tr>
<tr>
<td>Color: Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor: Characteristic</td>
<td></td>
</tr>
<tr>
<td>Odor threshold: Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>pH-value at 20 °C (68 °F):</strong></td>
<td>4-6</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range: Undetermined.</td>
<td></td>
</tr>
<tr>
<td>Boiling point/Boiling range: 100 °C (212 °F)</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous):</strong> Not flammable.</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong> Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Auto igniting:</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Upper: Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure at 20 °C (68 °F):</strong> 23 hPa (17.3 mm Hg)</td>
<td></td>
</tr>
<tr>
<td><strong>Density at 20 °C (68 °F):</strong> 1.03 g/cm³ (8.59535 lbs/gal)</td>
<td></td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong> Fully miscible.</td>
<td>Water:</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong> Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Solvent content:</strong></td>
<td></td>
</tr>
<tr>
<td>Water: 76.0 %</td>
<td></td>
</tr>
<tr>
<td>VOC content: 0.00 %</td>
<td>0.0 g/l / 0.00 lb/gal</td>
</tr>
<tr>
<td><strong>Solids content:</strong></td>
<td>0.0 %</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
Safety Data Sheet
acc. to OSHA HCS

Trade name: TISSUE FREEZING MEDIUM

10 Stability and reactivity

- Reactivity: No further relevant information available.
- 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:
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  The product is not subject to classification according to internally approved calculation methods for preparations:
  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.
  Irritant
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - NTP (National Toxicology Program)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety Health Administration)
    None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behavior in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
  - Additional ecocological information:
    - General notes:
      Water hazard class 1 (Self-assessment): slightly hazardous for water
      Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 6)
Trade name: TISSUE FREEZING MEDIUM

- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation: Smaller quantities can be disposed of with household waste.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA: Void
- UN proper shipping name
  - DOT, ADR, IMDG, IATA: Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA: Void
- Class
  - DOT, ADR, IMDG, IATA: Void
- Environmental hazards:
  - Not applicable.
- Special precautions for user
  - Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - Not applicable.
- UN "Model Regulation": Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - No further relevant information available.
- Sara
  - Section 355 (extremely hazardous substances):
    - None of the ingredients is listed.
  - Section 313 (Specific toxic chemical listings):
    - None of the ingredients is listed.
- TSCA (Toxic Substances Control Act):
  - All components have the value ACTIVE.
- Hazardous Air Pollutants
  - None of the ingredients is listed.
### 55.0.4 Proposition 65
- **Chemicals known to cause cancer:** None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:** None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:** None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:** None of the ingredients is listed.

### 55.0.5 Carcinogenic categories
- **EPA (Environmental Protection Agency)** None of the ingredients is listed.
- **TLV (Threshold Limit Value)** None of the ingredients is listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** None of the ingredients is listed.

### GHS label elements
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Precautionary statements**
  - Store in a well-ventilated place. Keep container tightly closed.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

### Chemical safety assessment
- **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.

- **Contact:**
- **Date of preparation / last revision** 11/23/2022 / -

**Abbreviations and acronyms:**
- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit