MATERIAL SAFETY DATA SHEET (MSDS)
GST - Tagged Lyophilized Fusion Proteins

1. PRODUCT IDENTIFICATION:
GST-tagged lyophilized fusion proteins

2. COMPOSITION/INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
<th>CAS #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fusion Protein</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Mannitol</td>
<td>34.4%</td>
<td>69-65-8</td>
</tr>
<tr>
<td>Trehalose</td>
<td>34.4%</td>
<td>99-20-7</td>
</tr>
<tr>
<td>Glutathione</td>
<td>&lt;21.1%</td>
<td>70-18-8</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>2.7%</td>
<td>7647-14-5</td>
</tr>
<tr>
<td>Sodium Phosphate, Dibasic</td>
<td>5.7%</td>
<td>7558-79-4</td>
</tr>
<tr>
<td>Sodium Phosphate, Monobasic</td>
<td>1.4%</td>
<td>7558-80-7</td>
</tr>
</tbody>
</table>

3. HAZARD IDENTIFICATION:
Mannitol:
Harmful if swallowed; may cause irritation to eyes and skin; toxic to aquatic environment.

4. FIRST AID MEASURES:
Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing and wash before re-use.
Eye Contact: Ensure adequate flushing of contaminated eye for at least 15 minutes. Get medical attention.
Inhalation: Move person into fresh air. If not breathing give artificial respiration.
Ingestion: Wash mouth out thoroughly with water and drink plenty of water. Get medical attention.

5. FIRE-FIGHTING MEASURES:
Flash Point: No information available
Auto-Ignition: No information available
Flammability: No information available
Extinguishing Media: Water spray, foam, carbon dioxide or dry chemical.

6. ACCIDENTAL RELEASE MEASURES:
Clean with inert absorbent material and dispose of in a chemical waste container.

7. HANDLING AND STORAGE:
Handling:
Avoid inhalation and contact with eyes and skin. Avoid prolonged or repeated exposure. Storage: Store at -20 °C in a labeled and closed container. Avoid freeze/thaw cycles.

8. EXPOSURE CONTROLS/PPE:
Exposure Controls:
Ensure adequate ventilation and eye wash and shower facilities in work area.
Personal Protective Equipment: Wear lab coat, safety glasses, and gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Odorless, Colorless liquid</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Soluble</td>
</tr>
</tbody>
</table>

10. CHEMICAL STABILITY AND REACTIVITY:
Stability: Stable
Materials to avoid: Strong oxidizing reagents
Hazardous Decomposition: May form CO2 and carbon monoxide

11. TOXICOLOGICAL INFORMATION:
Inhalation: May be harmful if inhaled
Ingestion: May be harmful if ingested
Skin contact: May cause skin irritation
Eye contact: May cause eye irritation

12. ECOLOGICAL INFORMATION:
No information available.

13. DISPOSAL CONSIDERATIONS:
Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION:
DOT: This product is considered to be non-hazardous for transport.
IATA: This product is considered to be non-hazardous for air transport.

15. REGULATORY INFORMATION:
No information available.

16. OTHER INFORMATION:
This product is sold for laboratory research and development use only and not for use in humans or animals. Users should be familiar with chemicals and be well trained to handle this product.
The above information should be used as a guide only and it does not purport to be all-inclusive. The information in this MSDS does not constitute a warranty, and Proteintech Group Inc. shall not be held liable for any damages or losses resulting from handling or from contact with the above product.
1. PRODUCT IDENTIFICATION:

His-tagged lyophilized fusion proteins

2. COMPOSITION/INFORMATION ON INGREDIENTS:

<table>
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<tr>
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<th>CAS Number</th>
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</thead>
<tbody>
<tr>
<td>Fusion Protein</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Mannitol</td>
<td>37.1%</td>
<td>69-65-8</td>
</tr>
<tr>
<td>Trehalose</td>
<td>37.1%</td>
<td>99-20-7</td>
</tr>
<tr>
<td>Imidazole</td>
<td>&lt;15.2%</td>
<td>288-32-4</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>2.9%</td>
<td>7647-14-5</td>
</tr>
<tr>
<td>Sodium Phosphate, Dibasic</td>
<td>6.1%</td>
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<td>7558-80-7</td>
</tr>
</tbody>
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3. HAZARD IDENTIFICATION:

Imidazole: Harmful if swallowed; may cause irritation to eyes and skin.

4. FIRST AID MEASURES:

Skin Contact: Wash off skin thoroughly with soap and water. Remove contaminated clothing and wash before re-use.

Eye Contact: Ensure adequate flushing of contaminated eye for at least 15 minutes. Get medical attention.

Inhalation: Move person into fresh air. If not breathing give artificial respiration.

Ingestion: Wash mouth out thoroughly with water and drink plenty of water. Get medical attention.

5. FIRE-FIGHTING MEASURES:

Flash Point: No information available

Auto-Ignition: No information available

Temperature: No information available

Flammability: No information available

Extinguishing Media: Water spray, foam, carbon dioxide or dry chemical

6. ACCIDENTAL RELEASE MEASURES:

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Personal Protective Equipment: Wear lab coat, safety glasses, and gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical State: Odorless, Colorless liquid

Boiling Point: No information available

Melting Point: No information available

Vapor pressure: No information available

Vapor density: No information available

Solubility in water: Soluble

10. CHEMICAL STABILITY AND REACTIVITY:

Stability: Stable

Materials to avoid: Strong oxidizing reagents

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