

# MATERIAL SAFETY DATA SHEET (MSDS)

## GST - Tagged Lyophilized Fusion Proteins

### 1. PRODUCT IDENTIFICATION:

GST-tagged lyophilized fusion proteins

### 2. COMPOSITION/INFORMATION ON INGREDIENTS:

Fusion Protein	0.2%	
Mannitol	34.4%	CAS #: 69-65-8
Trehalose	34.4%	CAS #: 99-20-7
Glutathione	<21.1%	CAS #: 70-18-8
Sodium Chloride	2.7%	CAS #: 7647-14-5
Sodium Phosphate, Dibasic	5.7%	CAS #: 7558-79-4
Sodium Phosphate, Monobasic	1.4%	CAS #: 7558-80-7

### 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 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 Temperature	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:

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
Hazardous Decomposition:	May form CO <sub>2</sub> 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.

# MATERIAL SAFETY DATA SHEET (MSDS)

## His - Tagged Lyophilized Fusion Proteins

### 1. PRODUCT IDENTIFICATION:

His-tagged lyophilized fusion proteins

### 2. COMPOSITION/INFORMATION ON INGREDIENTS:

Fusion Protein	0.2%	
Mannitol	37.1%	CAS #: 69-65-8
Trehalose	37.1%	CAS #: 99-20-7
Imidazole	<15.2%	CAS #: 288-32-4
Sodium Chloride	2.9%	CAS #: 7647-14-5
Sodium Phosphate, Dibasic	6.1%	CAS #: 7558-79-4
Sodium Phosphate, Monobasic	1.5%	CAS #: 7558-80-7

### 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 Temperature	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:

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
Hazardous Decomposition:	May form CO <sub>2</sub> 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.

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