

## Safety Data Sheet (SDS)

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Catalog Code Number:** 4022  
**Product Name:** Liver-Cell Growth Factor  
**Supplier's Name:** Peptide Institute, Inc.  
**Address:** 7-2-9 Saito-Asagi, Ibaraki-Shi, Osaka 567-0085, Japan  
**Phone Number:** 81-72-643-4411  
**Fax Number:** 81-72-643-4422  
**Creation Date:** September 11, 2014  
**Revised:** November 15, 2023 (ver. 3)

### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**  
**GHS classification** Not a hazardous substance  
**Other hazards:** No data available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture:** Single Substance  
**Common Chemical Name, Common Name or Substance Name:**  
Liver-Cell Growth Factor  
**Structure:** Gly-His-Lys • AcOH • H<sub>2</sub>O  
**Molecular Formula:** C<sub>14</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub> • CH<sub>3</sub>COOH • H<sub>2</sub>O (M.W. 340.38 • 60.05 • 18.02)  
**CAS Registry Number:** 72957-37-0  
**EINECS No.:** 277-125-4  
**UN No. & Hazard Class:** This material is not classified as hazardous goods.

### 4. FIRST AID MEASURES

**Inhalation:** If inhaled, remove person to fresh air and keep comfortable for breathing. Wash your mouth and nasal cavity thoroughly with clean water and get medical attention.  
**Skin contact:** In case of skin contact, wash with plenty of water. Call a doctor, if you feel unwell.  
**Eye contact:** In case of contact with eyes, wash with plenty of water. Call a doctor, if you feel unwell.  
**Ingestion:** If swallowed, rinse mouth. Call a doctor, if you feel unwell.

### 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing media:** Water spray, carbon dioxide, dry chemical powder, or appropriate form.  
**Unsuitable Extinguishing media:** Nothing special.  
**Special extinguishing method:** Complies with fire extinguishing method in normal fire.  
**Specific hazards arising from the chemical product:**  
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**  
Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.  
**Environmental precautions:**  
To be careful not discharged to the environment without being properly handled waste water contaminated.  
**Methods and materials for contaminant and methods and materials for cleaning up:**  
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.

## 7. HANDLING AND STORAGE

### Handling:

**Technical measures:** No data available

**Precautions for safe handling:** Avoid inhalation. Avoid contact with eyes, skin and clothing.

### Storage:

**Condition for safe storage:** Keep container tightly closed. Store in a cool dry place.

**Recommended storage temperature:** -20 °C.

**Container and packaging materials for safe handling:** No data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls:** No data available

**Exposure limits:** No data available

### Personal protective equipment:

Wear appropriate respirator, chemical-resistant gloves, safety goggles, other protective clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Solid (amorphous powder)

**Color:** White

**Odor:** No data available

**Melting point/freezing point:** No data available

**Boiling point or initial boiling point and boiling range:** No data available

**Flammability:** No data available

**Lower and upper explosion limit/flammability limit:** No data available

**Flash point:** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available

**pH:** No data available

**Kinematic viscosity:** No data available

**Solubility:** Soluble in H<sub>2</sub>O

***n*-Octanol/water partition coefficient:** No data available

**Vapor pressure:** No data available

**Density and/or relative density:** No data available

**Relative vapor density:** No data available

**Particle characteristics:** No data available

## 10. STABILITY AND REACTIVITY

**Reactivity:** No data available

**Chemical stability:** No data available

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** No data available

**Incompatible materials:** No data available

**Hazardous decomposition products:** No data available

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:** No data available

**Skin irritation/corrosion:** No data available

**Serious eye damage/ irritation:** No data available

**Respiratory or skin sensitization:** No data available

**Reproductive cell mutagenicity:** No data available

**Carcinogenicity:** No data available

**Reproductive toxicity:** No data available

**STOT-single exposure:** No data available

**STOT-repeated exposure:** No data available

**Aspiration hazard:** No data available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Hazards to ozone layer:** No data available

## 13. DISPOSAL CONSIDERATIONS

**Information on the safe and environmentally sound disposal or recycling of chemicals and contaminated containers and packaging:**

Obey local/national regulations.

## 14. TRANSPORT INFORMATION

**UN number and UN classification:** This material is not classified as hazardous goods.

**Regulatory information if there are Japanese regulations:** Not applicable.

## 15. REGULATORY INFORMATION

**Names of applicable Japanese laws and information on regulation based on those laws:** Not applicable.

Caution: The chemical, physical and toxicological properties of this product have not been thoroughly investigated. Exercise due care.

## 16. OTHER INFORMATION

**Disclaimer:** NOT FOR USE IN HUMANS. For R&D use only. Not for drug, household or other uses.

**Reference:**

1. JCIA: Japan Chemical Industry Association GHS support Guidelines (June, 2019)
2. JIS Z 7253:2019 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS)
3. NITE: National Institute of Technology and Evaluation (JAPAN) web site

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