Peptide Institute, Inc.

7-2-9 Saito-Asagi, Ibaraki-Shi, Osaka 567-0085, Japan

Safety Data Sheet (SDS)

1. PRODUCT AND COMPANY IDENTIFICATION

Catalog Code Number: 4043/4043-v Product Name: Leucine-Enkephalin 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 26, 2014 Revised: November 29, 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: Leucine-Enkephalin (Human, Porcine, Bovine, Rat, Mouse)
Structure: Tyr-Gly-Gly-Phe-Leu
Molecular Formula: C₂₈H₃₇N₅O₇ (M.W. 555.62)
CAS Registry Number: 58822-25-6
EINECS No.: 261-457-1
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.

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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 H₂O 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

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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-Labelling and Safety Data Sheet (SDS)

3. NITE: National Institute of Technology and Evaluation (JAPAN) web site

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