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: 3404-v
Product Name: 4-[D10]Leu-Insulin (Human)
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
Recommended uses: Reagent
Restrictions on use: Seek expert judgment as necessary.
Creation Date: April 24, 2012
Revised: March 19, 2024 (ver.5)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS classification Not a hazardous substance
Other hazards: The chemical, physical and toxicological properties of this product have not been thoroughly investigated. Exercise due care.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture: Single Substance
Common Chemical Name, Common Name or Substance Name: 4-[D10]Leu-Insulin (Human)
Synonym: [[$^{2}H_{10}$]Leu^{B6,B11,B15,B17}]-Insulin (Human)
(Trifluoroacetate Form)
Structure: A-chain:
Gly-Ile-Val-Glu-Gln-Cys-Cys-Thr-Ser-Ile-Cys-Ser-Leu-Tyr-Gln-Leu-Glu-Asn-Tyr-Cys-Asn
B-chain:
Phe-Val-Asn-Gln-His-[$^{2}H_{10}$]Leu-Cys-Gly-Ser-His-[$^{2}H_{10}$]Leu-Val-Glu-Ala-[$^{2}H_{10}$]Leu-Tyr-[$^{2}H_{10}$]Leu-Val-Cys-Gly-Glu-Arg-Gly-Phe-Phe-Tyr-Thr-Pro-Lys-Thr
(Disulfide bonds between Cys^{A6}-Cys^{A11}, Cys^{A7}-Cys^{B7}, and Cys^{A20}-Cys^{B19})
Molecular Formula: $C_{257}H_{343}D_{40}N_{65}O_{77}S_{6}$ (M.W. 5847.8)
Product Description: Stable Isotope-Labeled Insulin Useful for Standardization of Insulin Immunoassays
CAS Registry Number: -
EINECS No.: -
UN No. & Hazard Class: -

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
Concentration standard values under Japanese Safety and Health Act: 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 0.1% AcOH
***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:
Export Trade Control Order Appended Table 1 and Ministerial Ordinance that establishes cargo or technology pursuant to the provision of the Appended Table of Foreign Exchange Order Article 1-3 (Corresponding to deuterium compound).
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 (September, 2023)
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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