1. PRODUCT AND COMPANY IDENTIFICATION

Catalog Code Number: 4445-s
Product Name: LL-37 (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
Creation Date: June 30, 2009
Revised: February 26, 2019 (ver.4)

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 Name: LL-37 (Human)
Molecular Formula: C_{205}H_{340}N_{60}O_{53} (M.W. 4493.3)
Product Description: Cathelicidin Antimicrobial Peptide
CAS Registry Number: 154947-66-7
EINECS No.: -
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

Extinguishing media: Water spray, carbon dioxide, dry chemical powder, or appropriate form.

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:

SDS No. 4445 LL-37 (Human)
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.

7. HANDLING AND STORAGE

Handling: Avoid inhalation. Avoid contact with eyes, skin and clothing.
Storage: Keep container tightly closed. Store in a cool dry place. Recommended Storage -20 °C.

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

Appearance and Odor: White amorphous powder
Reactivity in Water: No reactivity
Solubility: Soluble in H₂O

10. STABILITY AND REACTIVITY

Stability: No data available
Reactivity: 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

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

Not applicable.

SDS No. 4445 LL-37 (Human)
Caution: The chemical, physical and toxicological properties of this product have not been thoroughly investigated. Exercise due care.

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<th>16. OTHER INFORMATION</th>
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<tr>
<td><strong>Disclaimer:</strong> NOT FOR USE IN HUMANS. For R&amp;D use only. Not for drug, household or other uses.</td>
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<tr>
<td><strong>Reference:</strong></td>
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<tr>
<td>1. JCIA: Japan Chemical Industry Association GHS support Guidelines (June, 2012)</td>
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<tr>
<td>2. JIS Z7253:2012 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS)</td>
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<tr>
<td>3. NITE: National Institute of Technology and Evaluation (JAPAN) web site</td>
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