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: 4257-v
Product Name: Apamin
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: January 7, 2009
Revised: July 26, 2024 (ver. 4)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS classification Not a hazardous substance
Other hazards: May be fatal if enters bloodstream.
Do not breathe dust.
Do not use if skin is cut or scratched. Wash thoroughly after handling.
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:
Apamin
(Honeybee, *Apis mellifera*)
Structure: Cys-Asn-Cys-Lys-Ala-Pro-Glu-Thr-Ala-Leu-
Cys-Ala-Arg-Arg-Cys-Gln-Gln-His-NH_2
(Disulfide bonds between Cys^{1}-Cys^{11} and Cys^{3}-Cys^{15})
Molecular Formula: $C_{79}H_{131}N_{31}O_{24}S_4$ (M.W. 2027.3)
Product Description: Small Conductance Ca^{2+}-activated K^+ Channel Blocker
CAS Registry Number: 24345-16-2
EINECS No.: 246-182-7
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
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 H_2O
***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: LD_{50} (*i.v.* mouse): 4,000 μg/kg
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 (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