

## 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  
**Creation Date:** January 7, 2009  
**Revised:** December 17, 2018 (ver.3)

### 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 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<sub>2</sub>

(Disulfide bonds between Cys<sup>1</sup>-Cys<sup>11</sup> and Cys<sup>3</sup>-Cys<sup>15</sup>)

**Molecular Formula:** C<sub>79</sub>H<sub>131</sub>N<sub>31</sub>O<sub>24</sub>S<sub>4</sub> (M.W. 2027.3)

**Product Description:** Small Conductance Ca<sup>2+</sup>-activated K<sup>+</sup> 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

**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:**

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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:** 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 H<sub>2</sub>O

## 10. STABILITY AND REACTIVITY

**Stability:** No data available

**Reactivity:** No data available

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:** LD<sub>50</sub> (*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

## 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.

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, 2012)
2. JIS Z7253:2012 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS)
3. NITE: National Institute of Technology and Evaluation (JAPAN) web site
4. E. Haberman, *Pharmacol. Ther.*, **25**, 255 (1984).

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