

Safety Data Sheet (SDS)

1. PRODUCT AND COMPANY IDENTIFICATION

Catalog Code Number: 4041/4041-v
Product Name: Leupeptin
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 13, 1994
Revised: September 6, 2023 (ver. 9)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS classification

HEALTH HAZARDS

ACUTE TOXICITY: ORAL Category 4

Pictograms or hazard symbols



Signal word Warning

Hazard statements

Harmful if swallowed

Precautionary statements

Prevention

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Response

IF SWALLOWED: Call a doctor if you feel unwell.

Rinse mouth.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Other hazards: This product is a kind of protease inhibitor produced by actinomycetes, and it is known that it shows strong inhibitory action against trypsin, plasmin, papain, cathepsin B and the like. The details of the other actions are unknown and should be handled with caution in using them.

3. COMPOSITION/INFORMATION ON INGREDIENTS

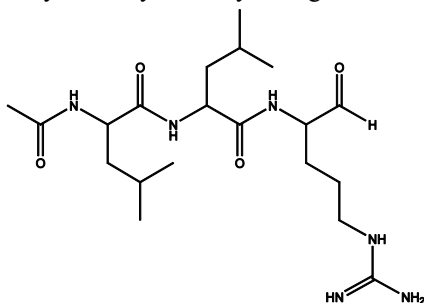
Single Substance or Mixture: Single Substance

Common Chemical Name, Common Name or Substance Name: Leupeptin

Peptide Institute, Inc.

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

Structure: Acetyl-L-leucyl-L-leucyl-L-argininal



Molecular Formula: C₂₀H₃₈N₆O₄ (M.W. 426.55)

Product Description: Inhibitor for Trypsin, Plasmin, Papain, and Cathepsin B

CAS Registry Number: 55123-66-5

103476-89-7

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

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

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:

LD₅₀ (male mouse *p.o.*): 740 mg/kg, (female mouse *p.o.*): 1,000 mg/kg GHS classification Category 4

(male mouse *s.c.*): 608 mg/kg, (female mouse *s.c.*): 540 mg/kg

(male mouse *i.v.*): 78 mg/kg, (female mouse *i.v.*): 74 mg/kg

(male rat *p.o.*): 720 mg/kg, (female rat *p.o.*): 740 mg/kg GHS classification Category 4

(male rat *s.c.*): 1,100 mg/kg, (female rat *s.c.*): 1,250 mg/kg

(male rat *i.v.*): 80 mg/kg, (female rat *i.v.*): 87 mg/kg

(Abbreviations: LD₅₀: 50% Lethal dose, *p.o.*: per os, *s.c.*: subcutaneous, *i.v.*: intravenous)

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 (June, 2019)
2. JIS Z 7253:2019 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS)
3. NITE: National Institute of Technology and Evaluation (JAPAN) web site

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