

# Enfuvirtide Acetate SDS/MSDS (Safety Data Sheet)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

\* Product Name: Enfuvirtide Acetate

\* Catalog Number: E0005

\* CAS Number: 159519-65-0 (free base)

\* IUPAC Name: L-Phenylalaninamide, N-acetyl-L-tyrosyl-L-threonyl-L-seryl-L-leucyl-L-isoleucyl-L-histidyl-L-seryl-L-leucyl-L-isoleucyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-seryl-L-glutamyl-L-asparaginy-L-glutamyl-L-glutamyl-L- $\alpha$ -glutamyl-L-lysyl-L-asparaginy-L- $\alpha$ -glutamyl-L-glutamyl-L- $\alpha$ -glutamyl-L-leucyl-L-leucyl-L- $\alpha$ -glutamyl-L-leucyl-L- $\alpha$ -aspartyl-L-lysyl-L-tryptophyl-L-alanyl-L-seryl-L-leucyl-L-tryptophyl-L-asparaginy-L-tryptophyl-

Relevant identified uses and uses advised against

\* Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.

\* Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

\* Company: Selleck Chemicals

\* TollFree: +1 877 796-6397

\* Tel: +1 832 582-8158

\* Fax: +1 832 582-8590

Emergency telephone number

\* Emergency phone #: +1 832 582-8158

## 2. HAZARDS IDENTIFICATION

### 2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Skin sensitization: Category 1. H317

### 2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word

Warning

Hazard statement(s)

H317: May cause an allergic skin reaction

Precautionary statement(s)

None.

Prevention

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

|                 |                                                                                                                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Response</b> | P302+P352: IF ON SKIN: wash with plenty of water.<br>P321: Specific treatment (see information on this label and safety datasheet)).<br>P333+P317: If skin irritation or rash occurs: Get medical help.<br>P362+P364: Take off contaminated clothing and wash it before reuse. |
| <b>Disposal</b> | P501: P501 Dispose of contents/ container to an approved waste disposal plant.                                                                                                                                                                                                 |

### 2.3 Other hazards

None.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Product name: Enfuvirtide Acetate

CAS Number: 159519-65-0 (free base)

PubChem CID: 16130199

Molecular formula: C204H301N51O64

Molecular weight: 4492 g/mol

IUPAC name: (4S)-4-[[[(2S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S,3S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S,3S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S,3R)-2-[[[(2S)-2-acetamido-3-(4-hydroxyphenyl)propanoyl]amino]-3-hydroxybutanoyl]amino]-3-hydroxypropanoyl]amino]-4-methylpentanoyl]amino]-3-methylpentanoyl]amino]-3-(1H-imidazol-5-yl)propanoyl]amino]-3-hydroxypropanoyl]amino]-4-methylpentanoyl]amino]-3-methylpentanoyl]amino]-4-carboxybutanoyl]amino]-4-carboxybutanoyl]amino]-3-hydroxypropanoyl]amino]-5-amino-5-oxopentanoyl]amino]-4-amino-4-oxobutanoyl]amino]-5-amino-5-oxopentanoyl]amino]-5-amino-5-oxopentanoyl]amino]-5-[[[(2S)-6-amino-1-[[[(2S)-4-amino-1-[[[(2S)-1-[[[(2S)-5-amino-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-6-amino-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-4-amino-1-[[[(2S)-1-[[[(2S)-1-amino-1-oxo-3-phenylpropan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-1,4-dioxobutan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-hydroxy-1-oxopropan-2-yl]amino]-1-oxopropan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-1-oxohexan-2-yl]amino]-3-carboxy-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-4-carboxy-1-oxobutan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-4-carboxy-1-oxobutan-2-yl]amino]-1,5-dioxopentan-2-yl]amino]-4-carboxy-1-oxobutan-2-yl]amino]-1,4-dioxobutan-2-yl]amino]-1-oxohexan-2-yl]amino]-5-oxopentanoic acid

### 3.2 Mixtures

Not applicable (pure substance).

## 4. FIRST-AID MEASURES

### 4.1 Description of first aid measures

Inhalation: Move to fresh air. Keep at rest in a position comfortable for breathing. Seek medical attention if symptoms persist.

Skin contact: Wash with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation develops.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

#### **4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Contact a poison control center or physician for severe exposure.

### **5. FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

Suitable: Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam.

Unsuitable: None known.

#### **5.2 Specific hazards arising from the substance or mixture**

Combustible. Heating may produce toxic fumes.

#### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

#### **6.2 Environmental precautions**

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

#### **6.3 Methods and materials for containment and cleaning up**

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational exposure or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

### **7. HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

Store at 25 °C (77 °F), excursions permitted to 15 to 30deg C (59 to 86 °F ).

#### **7.2 Conditions for safe storage, including any incompatibilities**

Store at 25 °C (77 °F), excursions permitted to 15 to 30deg C (59 to 86 °F ).

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Exposure controls

#### 8.1.1 Occupational exposure limits (OEL)

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

#### 8.1.2 Appropriate engineering controls

Use in a well-ventilated area. Chemical fume hood recommended for powder handling.

### 8.2 Individual protection measures

#### 8.2.1 Eye/face protection

Wear safety glasses with side shields.

#### 8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

#### 8.2.3 Respiratory protection

Respiratory protection usually not required under normal use with adequate ventilation.

Use N95 respirator for large-scale powder handling.

#### 8.2.4 Thermal hazards

Not applicable.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance: White to off white amorphous solid

b) Odor: No data available

c) Odor threshold: No data available

d) pH: No data available

e) Melting point/freezing point: No data available

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: No data available

l) Vapor density: No data available

m) Relative density: No data available

n) Water solubility: Negligible solubility in pure water. In buffer pH 7.5, 85-142 mg/100 mL.

o) Partition coefficient: n-octanol/water: Log P (n-octanol/water): -14.7

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

- r) Viscosity: No data available
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

## 9.2 Other information

Topological Polar Surface Area (TPSA): 1900 Å²  
Complexity: 11200

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.  
Avoid strong oxidizing agents, strong acids, and strong bases.

### 10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases.

### 10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NOx).  
See also Section 5 (Fire-fighting measures) for combustion products.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity:

No acute toxicity data available.

#### Skin corrosion/irritation:

No data available.

#### Serious eye damage/eye irritation:

No data available.

#### Respiratory or skin sensitization:

May cause an allergic skin reaction (H317).

#### Germ cell mutagenicity:

No data available.

#### Carcinogenicity:

No data available.

#### Reproductive toxicity:

No data available.

**Specific target organ toxicity (single exposure):**

No data available.

**Specific target organ toxicity (repeated exposure):**

No data available.

**Aspiration hazard:**

No data available.

## 11.2 Additional information

No additional toxicological information available.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Enfuvirtide's production and use in the treatment of AIDS may result in its release to the environment through various waste streams. Enfuvirtide is a peptide comprised of 36 amino acids and is expected to have a very low vapor pressure and exist solely in the particulate phase in the ambient atmosphere. Particulate-phase enfuvirtide will be removed from the atmosphere by wet and dry deposition. Enfuvirtide contains the amino acid residue tryptophan which absorbs light at 290 nm and therefore, may be subject to direct photolysis by sunlight; however, the rate of this reaction is not known. Volatilization from water and moist soil surfaces is not expected to be an important fate process because this compound is highly charged in the environment and charged species do not volatilize. Enfuvirtide will not volatilize from dry soil surfaces based upon its expected vapor pressure. As a peptide enfuvirtide is expected to biodegrade readily however the exact rate of this reaction for this compound is not known. The low bioavailability of other large peptides suggests the potential for bioconcentration in aquatic organisms is low. Hydrolysis is not expected to be an important environmental fate process since this compound lacks functional groups that hydrolyze under environmental conditions. Occupational exposure to enfuvirtide may occur through inhalation of dust and dermal contact with this compound at workplaces where enfuvirtide is produced or used. Exposure to enfuvirtide among t

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

Log P (n-octanol/water): -14.7

Low potential for bioaccumulation (Log P < 3).

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

### 12.6 Other adverse effects

No other adverse ecological effects identified.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

## **14. TRANSPORT INFORMATION**

### **14.1 UN number**

Not regulated as dangerous goods (research quantities typically exempt).

### **14.2 UN proper shipping name**

Not subject to transport regulations (small quantities for research use).

### **14.3 Transport hazard class(es)**

Not classified as dangerous goods for transport (research quantities).

### **14.4 Packing group**

Not applicable (not regulated as dangerous goods in typical research quantities).

### **14.5 Environmental hazards**

Marine pollutant: No (not classified as environmentally hazardous per GHS).

### **14.6 Special precautions for user**

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

### **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

## **15. REGULATORY INFORMATION**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

US EPA / TSCA: Not available in public databases.

EU ECHA / REACH: Not available in public databases.

#### **SARA 302 Components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards:**

Acute (short-term) health hazard

#### **Massachusetts Right To Know Components:**

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

#### **Pennsylvania Right To Know Components:**

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

**New Jersey Right To Know Components:**

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

**California Prop. 65 Components:**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory listings:**

- FDA Requirements: The Approved Drug Products with Therapeutic Equivalence Evaluations List identifies currently marketed prescription drug products, including enfuvirtide, approved on the basis of safety and effectiveness by FDA under sections 505 of the Federal Food, Drug, and Cosmetic Act.

**15.2 Chemical safety assessment**

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

**16. OTHER INFORMATION**

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product.

Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.