



Athens Research and Technology, Inc.

Revision Date: 12 February 2025

SDS – SAFETY DATA SHEET

Version: 3

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## **Section 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1 – Product Identifiers**

Product Name: Defensins, Alpha, Mixed from Human Neutrophils

Synonyms: HNP, Human Neutrophil Peptides

Product Number: 16-14-081416

Brand: Athens Research and Technology

### **1.2 – Relevant Identified Uses of the Substance or Mixture and Uses Advised Against**

Identified uses: Research Reagent Only, Not Approved for Therapeutic Use

Uses Advised Against: Not for Use as a Drug or Drug Component for Humans or Animals

### **1.3 – Details of the Supplier of the Safety Data Sheet**

Supplier: Athens Research and Technology  
110 Trans Tech Drive  
Athens, GA 30601  
USA

Email: [sales@athensresearch.com](mailto:sales@athensresearch.com)

Telephone: +1 706-546-0207

Fax: +1 706-546-7395

### **1.4 – Emergency Telephone Number**

Emergency Phone: +1 706-546-0207

**Section 2: Hazards Identification**


**2.1 – Classification of the Substance or Mixture**

GHS Classification:

- Flammable Liquid (Category 3), H226
- Skin corrosion/irritation (Category 1A), H314
- Serious eye damage/eye irritation (Category 1), H318
- Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3), H335

OSHA Classification: Acetic Acid-Target Organ Effect, Corrosive

**2.2 – GHS Label Elements, including precautionary statements –**

Pictogram	
Signal Word	Danger
Hazard Statements	
H226	Flammable liquid and vapor
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation

**Precautionary Statements**

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264+P265	Wash skin thoroughly after handling. Do not touch eyes
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: wash with plenty of soap and water.
P302+P361+P354	IF ON SKIN: Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P319	Get medical help if you feel unwell.
P333+P317	If eye irritation persists: Get medical help.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 – Hazards not otherwise classified (HNOC) or not covered by GHS - Human source material

## Section 3: Composition/Information on Ingredients

**3.1 – Substance** – Defensins, Alpha, Mixed from Human Neutrophils. The product contains no substances which at their present concentrations are considered hazardous to health.

### 3.2 – Mixtures

Chemical ID	Synonyms	CAS-No.	EC-No.	Classification	Concentration
H <sub>2</sub> O	Water	7732-18-5	231-791-2	None	≤93.9%
CH <sub>3</sub> COOH	Methanecarboxylic acid, Acetic acid	64-19-7	200-580-7	Flam. Liq. 3; Skin Skin Corr. 1A; Eye Dam. 1; STOT SE Resp. Irr. 3; H226, H314 H318, H335	≤6.01

Defensins	Human Neutrophil Peptides, HNP	None	None	None	≥0.1%
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## Section 4: First Aid Measures

### 4.1 – Description of First Aid Measures

**If Inhaled** – If inhaled, move person into fresh air. If not breathing, give CPR

**In Case of Skin Contact** – Remove contaminated clothing. Wash skin with soap and water

**In Case of Eye Contact** – Flush eyes with plenty of water. Remove contact lens

**If Swallowed** - Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult physician

**4.2 – Most Important Symptoms and Effect, both Acute and Delayed** – No Information Available

**4.3 – Indication of Immediate Medical Attention and Special Treatment Needed** – Notes to Physician – Treat Symptomatically

## Section 5: Firefighting Measures

**5.1 – Extinguishing Media** - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. No limitations of extinguishing agents are given.

### 5.2 – Special Hazards Arising from Substance

Carbon oxides

Combustible.

Fire may cause evolution of: Acetic acid vapours Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 – Advise for Firefighters** – Use SCBA and full turn-out gear

**5.4 – Further Information** – Suppress (knockdown) gases/vapors/mists with a water spray jet

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## **Section 6: Accidental Release Measures**

**6.1 – Personal Precautions, Protective Equipment and Emergency Procedures** – Safety glasses/goggles, gloves, lab coat. Do not breathe vapors, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition.

**6.2 – Environmental Precautions** - Do not let product enter drain system

**6.3 – Methods and Material for Containment and Cleaning up** - Pick up and arrange disposal in accordance with existing disposal practices employed for infectious waste at your location. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 – Reference to Other Sections** – See Section 13 for disposal

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## **Section 7: Handling and Storage**

**7.1 – Precautions for Safe Handling** – Avoid contact with skin and eyes. Provide appropriate exhaust ventilation at places where aerosols are formed.

**7.2 – Conditions for Safe Storage, including any Incompatibilities** – Keep container tightly closed in a dry and well-ventilated place. Recommended Storage temperature: -70°C

**Storage class:** Storage class (TRGS 510): 3: Flammable liquids

**7.3 – Specific End Uses** – Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

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## **Section 8: Exposure Controls/Personal Protection**

**8.1 – Control Parameters – Ingredients with Workplace Control Parameters**

Component	CAS-No.	Value	Control Parameters	Basis	Remarks
Acetic acid	64-19-7	TWA	10 ppm	USA. ACGIH Threshold Limit Value (TLV)	None
		STEL	15 ppm	USA. ACGIH Threshold Limit Value (TLV)	None
		TWA	10 ppm 25mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits	None
		ST	15 ppm 37mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits	None
		TWA	10 ppm 25 g/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants	None
		PEL	10 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	None
		C	40 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	None
		STEL	15 ppm 37 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	None

## 8.2 – Exposure Controls

**Appropriate engineering controls** – Change contaminated clothing. Wash hands after working with substance

### Personal Protective Equipment

**Respiratory Protection** – Ensure adequate ventilation

**Hand Protection** – Handle with gloves, inspect prior to use

**Eye Protection** – Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN 166

**Skin & Body Protection** – Lab coat, long pants/skirt, and closed toe shoes. PPE must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Engineering Measures** – Ensure adequate ventilation

**Hygiene Measures** – General industrial hygiene practice

**Control of Environmental Exposure** – No special precautions necessary

## Section 9: Physical and Chemical Properties

### 9.1 – Information on Basic Physical and Chemical Properties

<b>Physical State @ 20°C</b>	Aqueous solution
<b>Color</b>	Clear
<b>Odor</b>	No data available
<b>pH</b>	No data available
<b>Melting point/Freezing Point</b>	No data available
<b>Boiling Point/Boiling Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Flammability</b>	No data available
<b>Ignition temperature</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Vapor pressure</b>	No data available
<b>Density</b>	No data available

<b>Solubility in Water</b>	No data available
<b>Solubility in Oil</b>	No data available
<b>Solubility in Acetone</b>	No data available
<b>Relative vapor density</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Kinematic viscosity</b>	No data available
<b>Partition coefficient n-octanol/water</b>	No data available
<b>Evaporation Rate</b>	No data available
<b>Odor Threshold</b>	No data available
<b>Particle Characteristics</b>	Not Applicable

**9.2 – Other information** – No data available

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## **Section 10: Stability and Reactivity**

**10.1 – Reactivity** – No data available

**10.2 – Chemical Stability** – Stable under recommended storage conditions

**10.3 – Possibility of Hazardous Reactions** – No data available

**10.4 – Conditions to Avoid** – No data available

**10.5 – Incompatible Materials** – Strong oxidizing agents

**10.6 – Hazardous Decomposition Products** – In the event of fire see Section 5

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## **Section 11: Toxicological Information**

### **11.1 – Information on Hazard Classes**

#### **Mixture**

##### **Acute Toxicity Data**

Oral – No data available

Inhalation – No data available

Dermal – No data available

**Ingestion** – No data available.

**Skin Corrosion/Irritation** – No data available.

**Serious Eye Damage/Irritation** – No data available.

**Respiratory or Skin sensitization** – No data available.

**Related Symptoms** – No data available

**Acute & Chronic Effects** – No data available

**Reproductive toxicity** – No data available

**Teratogenicity** – No data available

**Germ cell Mutagenicity** – No data available

**STOT-single exposure** – No data available

**STOT-repeated exposure** – No data available

**Aspiration Hazard** – No data available

### **Carcinogenicity**

IARC – No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

NTP – No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed carcinogen.

OSHA – No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Component – Acetic acid**

#### **Acute Toxicity Data**

Oral - LD50 – Rat – 3,310 mg/kg. Remarks: RTECS

Inhalation LC50 – Mouse - 4 h – 2,819 mg/l - vapor. Remarks: RTECS

Dermal – No data available

**Ingestion** – May be harmful if swallowed.

**Skin Corrosion/Irritation** – May be harmful if absorbed through the skin. May cause irritation.

**Serious Eye Damage/Irritation** – May cause eye damage.

**Respiratory or Skin sensitization** – May be harmful if inhaled. May cause respiratory tract irritation.

**Related Symptoms** – No data available

**Acute & Chronic Effects** – No data available

**Reproductive toxicity** – No data available

**Teratogenicity** – No data available

**Germ cell Mutagenicity** – No data available

**STOT-single exposure** – No data available

**STOT-repeated exposure** – Central nervous system (CNS) Cardiovascular system, Liver, Kidney, Heart, and Spleen

**Aspiration Hazard** – No data available

### **Carcinogenicity**

IARC – No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

NTP – No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed carcinogen.

OSHA – No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

## **11.2 – Information on Other Hazards**

### **Component – Acetic acid**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx,

spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

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## Section 12: Ecological Information

**12.1 – Ecotoxicity** - Toxicity to fish – semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - >1,000 mg/L – 96h. (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates – static test EC50 – *Daphnia magna* (Water flea) – >1,000mg/L – 48h. (OECD Test Guideline 202).

Toxicity to algae – static test ErC50 – *Skeletonema costatum* – >1,000mg/L – 72h. (ISO 10253).

Toxicity to bacteria - EC5 - *Pseudomonas putida* - 2,850 mg/l - 16 h.  
Remarks: neutral (maximum permissible toxic concentration)

microtox test EC50 - *Photobacterium phosphoreum* - 11 mg/l - 15 min.  
Remarks: IUCLID

## 12.2 – Persistence/Degradability

Biodegradability – Result: 99% - Readily biodegradable. OECD Test Guideline 301D.  
Remarks: HSDB

Result: 95% - Readily eliminated from water. OECD Test Guideline 302B

Biochemical Oxygen Demand – 880mg/g.

Ratio BOD/ThBOD – 76%. Remarks: IUCLID

**12.3 – Bioaccumulation potential** - No data available

**12.4 – Mobility in Soil** - No data available

**12.5 – Results of PBT and vPvB assessment** - No data available

**12.6 – Endocrine disrupting properties** - No data available

**12.7 – Other Adverse Effects** - No data available

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## **Section 13: Disposal Considerations**

### **13.1 – Waste Treatment Methods**

**Contaminated Packaging** – Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Waste from Residues/Unused Products** – Dispose of in accordance with local regulations

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## **Section 14: Transport Information**

**DOT** – Not dangerous goods. This substance is considered to be non-hazardous for transport.

**ADR** – Not dangerous goods. This substance is considered to be non-hazardous for transport.

**IATA** – Not dangerous goods. This substance is considered to be non-hazardous for transport.

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## **Section 15: Regulatory Information**

### 15.1 – Safety, Health, and Environmental Regulations

<b>OSHA Hazards</b>	No known OSHA hazards
<b>SARA 311/312 Hazards</b>	Fire Hazard Acute Health Hazard Chronic Health Hazard
<b>SARA 302 Components</b>	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
<b>SARA 313 Components</b>	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels.

<b>Massachusetts Right to Know Components</b>	Acetic acid CAS-No. 64-19-7 Defensins CAS-No. Not applicable
<b>Pennsylvania Right to Know Components</b>	Acetic acid CAS-No. 64-19-7 Defensins CAS-No. Not applicable
<b>New Jersey Right to Know Components</b>	Acetic acid CAS-No. 64-19-7 Defensins CAS-No. Not applicable
<b>California Prop. 65 Components</b>	This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

### 15.2 Chemical Safety Assessment - No data available

### Section 16: Other Information

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The above information is believed to be correct but does not purport to be all inclusive. It shall be used only as a guide for experienced personnel. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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