



# Material Safety Data Sheet

## GHS-US Compliant

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### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Apelin-12 (Human, Rat, Mouse, Bovine) EIA Kit
- Synonyms: None known
- Product Form: Refer to component MSDS
- Catalog Number: EK-057-23

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

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### 2. HAZARDS IDENTIFICATION

- Refer to component MSDS.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

- Refer to component MSDS.

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### 4. FIRST AID MEASURES

- Refer to component MSDS.

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### 5. FIREFIGHTING MEASURES

- Refer to component MSDS.

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### 6. ACCIDENTAL RELEASE MEASURES

- Refer to component MSDS.
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## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Refer to component MSDS.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- Refer to component MSDS.
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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Refer to component MSDS.
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## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Refer to component MSDS.
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## 10. STABILITY AND REACTIVITY

- Refer to component MSDS.
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## 11. TOXICOLOGICAL INFORMATION

- Refer to component MSDS.
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## 12. ECOLOGICAL INFORMATION

- Refer to component MSDS.
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## 13. DISPOSAL CONSIDERATIONS

- Refer to component MSDS.
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## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.
- Special precautions:
  - Do not expose to heat.
  - Avoid freezing.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Kit Components:

|               |  |
|---------------|--|
| EK-RAB-057-23 | Apelin-12 Antibody (Human, Rat, Mouse, Bovine)         |
| EK-S-057-23   | Apelin-12 Standard (Human, Rat, Mouse, Bovine)         |
| EK-B-057-23   | Biotinylated Apelin-12 (Human, Rat, Mouse, Bovine)     |
| EK-PC-057-23  | Apelin-12 Positive Control (Human, Rat, Mouse, Bovine) |
| EK-BUF        | 20x Assay Buffer Concentrate                           |
| EK-SA-HRP     | Streptavidin-Horseradish Peroxidase                    |
| EK-SS         | Substrate Solution (TMB)                               |
| EK-HCL        | 2N HCl (Stop Solution)                                 |
| EK-PLATE      | 96 Well Immunoplate (coated with 2° antibody)          |

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Apelin-12 Antibody (Human, Rat, Mouse, Bovine)
- Synonyms: Primary antibody (rabbit anti-peptide IgG)
- Product Form: Lyophilized powder
- Catalog Number: EK-RAB-057-23

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: Not applicable.
- Response: Not applicable.
- Storage: Not applicable.
- Disposal: Not applicable.
- Other hazards: No additional information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: Primary antibody (rabbit anti-peptide IgG)
- Substance / mixture: Substance
- There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable, are listed in Section 8.



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: desiccate at +4°C, reconstituted at -20°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
- 

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: white, lyophilized solid (powder)
  - Odor: odorless
  - Solubility: fully soluble in water
  - Flammability: non-flammable
  - pH: no data available
  - Melting / freezing temperature: no data available
  - Boiling temperature (range): no data available
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: no data available
  - Partition coefficient: no data available
-



## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- None known.

### Hazardous decomposition products

- No known hazardous polymerization.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - None known.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- No data available.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
-



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |





# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Apelin-12 Standard (Human, Rat, Mouse, Bovine)
- Synonyms: Standard peptide
- Product Form: Lyophilized powder
- Catalog Number: EK-S-057-23

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: Not applicable.
- Response: Not applicable.
- Storage: Not applicable.
- Disposal: Not applicable.
- Other hazards: No additional information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: Standard peptide
- Substance / mixture: Substance
- There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable, are listed in Section 8.



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: desiccate at +4°C, reconstituted at -20°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
- 

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: white, lyophilized solid (powder)
  - Odor: odorless
  - Solubility: fully soluble in water
  - Flammability: non-flammable
  - pH: no data available
  - Melting / freezing temperature: no data available
  - Boiling temperature (range): no data available
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: no data available
  - Partition coefficient: no data available
-



## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- None known.

### Hazardous decomposition products

- No known hazardous polymerization.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - None known.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- No data available.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
-



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Biotinylated Apelin-12 (Human, Rat, Mouse, Bovine)
- Synonyms: Biotinylated peptide
- Product Form: Lyophilized powder
- Catalog Number: EK-B-057-23

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: Not applicable.
- Response: Not applicable.
- Storage: Not applicable.
- Disposal: Not applicable.
- Other hazards: No additional information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: Biotinylated peptide
- Substance / mixture: Substance
- There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable, are listed in Section 8.



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-





## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: desiccate at +4°C, reconstituted at -20°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
- 

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: white, lyophilized solid (powder)
  - Odor: odorless
  - Solubility: fully soluble in water
  - Flammability: non-flammable
  - pH: no data available
  - Melting / freezing temperature: no data available
  - Boiling temperature (range): no data available
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: no data available
  - Partition coefficient: no data available
-





## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- None known.

### Hazardous decomposition products

- No known hazardous polymerization.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - None known.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- No data available.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
-



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Apelin-12 Positive Control (Human, Rat, Mouse, Bovine)
- Synonyms: None known
- Product Form: Lyophilized powder
- Catalog Number: EK-PC-057-23

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: Not applicable.
- Response: Not applicable.
- Storage: Not applicable.
- Disposal: Not applicable.
- Other hazards: No additional information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: None known
- Substance / mixture: Substance
- There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable, are listed in Section 8.



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: desiccate at +4°C, reconstituted at -20°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
- 

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: white, lyophilized solid (powder)
  - Odor: odorless
  - Solubility: fully soluble in water
  - Flammability: non-flammable
  - pH: no data available
  - Melting / freezing temperature: no data available
  - Boiling temperature (range): no data available
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: no data available
  - Partition coefficient: no data available
-



## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- None known.

### Hazardous decomposition products

- No known hazardous polymerization.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - None known.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- No data available.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
-



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: 20x Assay Buffer Concentrate
- Synonyms: Assay Buffer, EIA Buffer
- Product Form: Liquid
- Catalog Number: EK-BUF

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- Skin corrosion/irritation (Category 2).
- Serious eye damage/irritation (Category 2A).
- Specific target organ toxicity, single exposure (Category 3).

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- Pictogram:



- Signal word: Irritant
- Hazard statements: H315: Causes skin irritation.  
H320: Causes eye irritation.  
H335: May cause respiratory irritation.



**Precautionary statements**

- Prevention: P261: Avoid breathing vapors.  
P264: Wash hands thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P281: Use personal protective equipment as required.
- Response: P308+P313: If exposed or concerned, get medical advice/attention.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so, and continue rinsing.  
P302+P352: IF ON SKIN: Wash with soap and water.  
P362: Take off contaminated clothing and wash before use.
- Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.
- Disposal: P501: Dispose of contents/container in accordance with local regulations.
- Other hazards: No additional information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substances**

- Synonyms: Assay Buffer, EIA Buffer
- Substance / mixture: Mixture

| Name        | CAS No.     | EINECS/ELINCS No. | Content | EU Hazard** |
|-------------|-------------|-------------------|---------|-------------|
| Component A | Proprietary | Proprietary       | < 1%    | N/A         |
| Component B | Proprietary | Proprietary       | < 1%    | N/A         |
| Component C | Proprietary | Proprietary       | <1%     | N/A         |
| Component D | Proprietary | Proprietary       | < 1%    | Xi          |
| Component E | Proprietary | Proprietary       | < 0.1%  | T+, N       |
| Component F | Proprietary | Proprietary       | < 0.1%  | Xn          |
| Water       | 7732-18-5   | 231-791-2         | > 96%   | N/A         |

\*\* T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritant, E = Explosive, F+ = Extremely flammable, F = Highly flammable, N = Dangerous for the environment, O = Oxidizing



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Dilute with plenty of water.
- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
- 

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: clear, colorless liquid
  - Odor: no data available
  - Solubility: fully soluble in water
  - Flammability: no data available
  - pH: no data available
  - Melting / freezing temperature: ~ 0°C (32°F)
  - Boiling temperature (range): ~100°C (212°F)
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: ~1.0
  - Partition coefficient: no data available
-



## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat

### Incompatible materials

- Strong acids or bases
- Strong oxidizers

### Hazardous decomposition products

- Heating to decomposition temperature may produce carbon monoxide, carbon dioxide, and nitrogen oxides.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - Mild skin irritation observed in rabbits after dermal exposure to 500mg of Component D for 24 hours.
  - Serious damage to eyes / eye irritation
    - Moderate irritation observed in rabbits after exposure to 100mg of Component D for 24 hours.
  - Respiratory or skin sensitization
    - None known.
  - Swallowing
    - Irritating effect on mouth and throat.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- LC<sub>50</sub> Dreissena Polymorpha 24 Hours 92,000 ug/L
- LC<sub>50</sub> Dreissena Polymorpha 24 Hours 137,000 ug/L
- LC<sub>50</sub> Dreissena Polymorpha 24 Hours 169,000 ug/L

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- None known.
-



### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
- Waste
  - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
- Soiled packaging
  - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.

### 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.
- Special precautions:
  - Do not expose to heat.
  - Avoid freezing.

### 15. REGULATORY INFORMATION

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

- No data available.

#### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

### 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

#### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| CEIL   | Ceiling Limit   |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| STEL   | Short Term Exposure Limit                                     |
| TWA    | Time Weighted Average   |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Streptavidin-Horseradish Peroxidase (SA-HRP)
- Synonyms: SA-HRP
- Product Form: Liquid
- Catalog Number: EK-SA-HRP

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- Skin corrosion/irritation (Category 3).
- Serious eye damage/irritation (Category 2B).

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- Pictogram:



- Signal word: Irritant
- Hazard statements: H316: Causes mild skin irritation.  
H320: Causes eye irritation.



**Precautionary statements**

- Prevention: P261: Avoid breathing vapors.  
P264: Wash hands thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P281: Use personal protective equipment as required.
- Response: P308+P313: If exposed or concerned, get medical advice/attention.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so, and continue rinsing.  
P302+P352: IF ON SKIN: Wash with soap and water.
- Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.
- Disposal: P501: Dispose of contents/container in accordance with local regulations.
- Other hazards: No additional information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances**

- Synonyms: SA-HRP
- Substance / mixture: Mixture

| Name            | CAS No.     | EINECS/ELINCS No. | Content | EU Hazard** |
|-----------------|-------------|-------------------|---------|-------------|
| SA-HRP Solution | Proprietary | Proprietary       | 100%    | Xi          |

\*\* T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritant, E = Explosive, F+ = Extremely flammable, F = Highly flammable, N = Dangerous for the environment, O = Oxidizing

**4. FIRST AID MEASURES**

**Description of first aid measures**

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

**Most important symptoms and effects, both acute and delayed**

- No data available.

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

- No data available.





## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Dilute with plenty of water.
- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
- 

## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- None known.
-





## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
  - Ensure laboratory is equipped with a safety shower and eye wash station.
- Personal protection measures, such as personal protective equipment
  - Use clean personal protective equipment that has been properly maintained.
- Eye protection
  - Use appropriate chemical safety goggles.
- Hand protection
  - Use appropriate chemical resistive gloves.
  - Wash and dry hands before using.
- Body protection
  - Wear appropriate protective clothing.
- Respiratory protection
  - If requested by your safety advisor, use a suitable respirator.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: colorless to light yellow liquid
- Odor: odorless
- Solubility: fully soluble in water
- Flammability: non-flammable
- pH: no data available
- Melting / freezing temperature: 0°C
- Boiling temperature (range): 100°C
- Flash point: no data available
- Vapor pressure: no data available
- Relative density: no data available
- Partition coefficient: no data available

---

## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, light.

### Incompatible materials

- Strong oxidizing agents.
- Alkali metals.
- Bases.
- Amines.
- Copper and copper alloys.

### Hazardous decomposition products

- Possible carbon monoxide, carbon dioxide, nitrous oxide, hydrogen chloride, hydrogen bromide, and phosphorous oxide fumes.



## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
  - Irritating effect on skin and mucous membranes.
- Serious damage to eyes / eye irritation
  - None known.
- Respiratory or skin sensitization
  - None known.
- Swallowing
  - Irritating effect on the mouth and throat.

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- None known.

---

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
- Waste
  - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
- Soiled packaging
  - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Substrate Solution (TMB)
- Synonyms: 3,3',5,5'-Tetramethylbenzidine
- Product Form: Liquid
- Catalog Number: EK-SS

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: P281: Use personal protective equipment as required.
- Response: P308+P313: If exposed or concerned, get medical advice/attention.
- Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.
- Disposal: P501: Dispose of contents/container in accordance with local regulations.
- Other hazards: No additional information available.



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: 3,3',5,5'-Tetramethylbenzidine
- Substance / mixture: Mixture

| Name  | CAS No.    | EINECS/ELINCS No. | Content | EU Hazard** |
|-------|------------|-------------------|---------|-------------|
| TMB   | 54827-17-7 | 259-364-6         | < 1%    | N/A         |
| Water | 7732-18-5  | 231-791-2         | > 99%   | N/A         |

\*\* T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritant, E = Explosive, F+ = Extremely flammable, F = Highly flammable, N = Dangerous for the environment, O = Oxidizing

### 4. FIRST AID MEASURES

#### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.

### 5. FIREFIGHTING MEASURES

- Non-flammable.

#### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

#### Special hazards arising from the substance or mixture

- None known.

#### Advice for firefighters

- None known.



## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Dilute with plenty of water.
- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
- 

## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- None known.
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
    - Ensure laboratory is equipped with a safety shower and eye wash station.
  - Personal protection measures, such as personal protective equipment
    - Use clean personal protective equipment that has been properly maintained.
  - Eye protection
    - Use appropriate chemical safety goggles.
  - Hand protection
    - Use appropriate chemical resistive gloves.
    - Wash and dry hands before using.
  - Body protection
    - Wear appropriate protective clothing.
  - Respiratory protection
    - If requested by your safety advisor, use a suitable respirator.
-



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: colorless to light yellow liquid
  - Odor: odorless
  - Solubility: fully soluble in water
  - Flammability: non-flammable
  - pH: no data available
  - Melting / freezing temperature: 0°C
  - Boiling temperature (range): 100°C
  - Flash point: no data available
  - Vapor pressure: no data available
  - Relative density: no data available
  - Partition coefficient: no data available
- 

## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, light.

### Incompatible materials

- Strong oxidizing agents.
- Alkali metals.
- Bases.
- Amines.
- Copper and copper alloys.

### Hazardous decomposition products

- Possible carbon monoxide, carbon dioxide, nitrous oxide, hydrogen chloride, hydrogen bromide, and phosphorous oxide fumes.
- 

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - Irritating effect on skin and mucous membranes.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
  - Swallowing
    - Irritating effect on the mouth and throat.
-



## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- None known.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
- 

## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
  - This product is not classified as environmentally hazardous according to the UN Model Regulations.
  - This product is not classified as a marine pollutant according to the IMDG Code.
- 

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.
-





## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: 2N HCL
- Synonyms: 2N Hydrochloric Acid, Stop Solution
- Product Form: Liquid
- Catalog Number: EK-HCL

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- Skin corrosion/irritation (Category 2).
- Serious eye damage/irritation (Category 2A).
- Specific target organ toxicity, single exposure (Category 3).

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- Pictogram:



- Signal word: Corrosive, Irritant
- Hazard statements: H315: Causes skin irritation.  
H320: Causes eye irritation.  
H335: May cause respiratory irritation.



**Precautionary statements**

- Prevention: P261: Avoid breathing vapors.  
P264: Wash hands thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P281: Use personal protective equipment as required.
- Response: P308+P313: If exposed or concerned, get medical advice/attention.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so, and continue rinsing.  
P302+P352: IF ON SKIN: Wash with soap and water.  
P362: Take off contaminated clothing and wash before use.
- Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.
- Disposal: P501: Dispose of contents/container in accordance with local regulations.
- Other hazards: No additional information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances**

- Synonyms: 2N Hydrochloric Acid, Stop Solution
- Substance / mixture: Mixture

| Name                       | CAS No.     | EINECS/ELINCS No. | Content | EU Hazard** |
|----------------------------|-------------|-------------------|---------|-------------|
| Hydrochloric Acid Solution | Proprietary | Proprietary       | 100%    | C, Xi       |

\*\* T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritant, E = Explosive, F+ = Extremely flammable, F = Highly flammable, N = Dangerous for the environment, O = Oxidizing

**4. FIRST AID MEASURES**

**Description of first aid measures**

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.



**Most important symptoms and effects, both acute and delayed**

- In the event of exposure by inhalation, possible nose and throat burning, irritation, and inflammation may occur. Some people may develop an inflammatory reaction to hydrogen chloride, called reactive airway dysfunction syndrome (RADS).
- In the event of splashes or contact with eyes, possible pain, swelling, or corneal erosion may occur.
- In the event of swallowing, possible irritation and burns of the gastrointestinal tract may occur, causing pain, nausea, vomiting, intense thirst, difficulty swallowing, salivation, chills, fever, uneasiness, and shock.
- In the event of contact with skin, possible irritation, pain, dermatitis, ulcerations, and burns may occur.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

**Extinguishing media**

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

**Special hazards arising from the substance or mixture**

- None known.

**Advice for firefighters**

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

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

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

**Environmental precautions**

- Dilute with plenty of water.
- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

**Methods and material for containment and cleaning up**

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

**Reference to other sections**

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- None known.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Component         | CAS No.   | Value | Control Parameters             | Basis   |
|-------------------|-----------|-------|--------------------------------|---|
| Hydrochloric Acid | 7647-01-0 | STEL  | 5 ppm<br>7.5 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)               |
|                   |           | CEIL  | 5 ppm<br>7.5 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits                |
|                   |           | CEIL  | 5 ppm<br>7 mg/m <sup>3</sup>   | USA. OSHA – Table AC-1<br>Permissible Exposure Limits |

### 8.2 Exposure controls

- Appropriate engineering controls
  - Ensure laboratory is equipped with a safety shower and eye wash station.
- Personal protection measures, such as personal protective equipment
  - Use clean personal protective equipment that has been properly maintained.
- Eye protection
  - Use appropriate chemical safety goggles.
- Hand protection
  - Use appropriate chemical resistive gloves.
  - Wash and dry hands before using.
- Body protection
  - Wear appropriate protective clothing.
- Respiratory protection
  - If requested by your safety advisor, use a suitable respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: clear, colorless liquid
- Odor: pungent odor of hydrogen chloride
- Solubility: 67% at 20°C (68°F)
- Flammability: no data available
- pH: no data available
- Melting / freezing temperature: ~ 0°C (32°F)
- Boiling temperature (range): ~100°C (212°F)
- Flash point: no data available
- Vapor pressure: 30,780 mm Hg at 20°C (68°F)
- Relative density: ~1.0
- Partition coefficient: no data available

## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- Hydroxides, amines, alkalis, oxidizers, acetic anhydride, active metals, amines, 2-aminoethanol, ammonia, ammonium hydroxide, calcium phosphide, chlorosulfonic acid, ethylene diamine, ethyleneimine, epichlorohydrin, isocyanates, metal acetylides, oleum, organic anhydrides, perchloric acid, 3-propiolactone, uranium phosphide, sulfuric acid, vinyl acetate, vinylidene fluoride.
- Highly corrosive to most metals, forming flammable hydrogen gas.
- Attacks some plastics, rubber, and coatings.

### Hazardous decomposition products

- When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
  - Mild skin irritation observed after dermal exposure to 4% hydrochloric acid for 24 hours.<sup>1</sup>
- Serious damage to eyes / eye irritation
  - Mild eye irritation observed in rabbits after exposure to 5 mg of hydrochloric acid for 30 seconds, followed by rinsing.<sup>1</sup>
- Respiratory or skin sensitization
  - Iritis observed in rats after inhalation of 3,124 µg/mL of hydrochloric acid.<sup>1</sup>
- Swallowing
  - Lowest published lethal dose in humans from oral exposure to hydrochloric acid reported at 2,857 µg/kg. Respiratory depression and changes in structure or function of esophagus observed.<sup>1</sup>



## 12. ECOLOGICAL INFORMATION

### Toxicity

- LC<sub>50</sub> Gambusia Affinis 24 Hours 282,000 ug/L<sup>2</sup>
- LC<sub>50</sub> Gambusia Affinis 48 Hours 282,000 ug/L<sup>2</sup>
- LC<sub>50</sub> Gambusia Affinis 96 Hours 180,000 ug/L<sup>2</sup>

### Persistence and degradability

- Hydrogen chloride dissociates readily in water to chloride and hydronium ions, decreasing the pH of the water.<sup>3</sup>
- Hydrochloric acid is expected to be essentially nonvolatile in water.<sup>3</sup>

### Bioaccumulative potential

- Hydrogen chloride does not accumulate in the food chain.<sup>3</sup>

### Mobility in soil

- Hydrogen chloride will evaporate from dry soil surfaces and dissociate into chloride and hydronium ions in moist soil.<sup>3</sup>

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- None known.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
- 

## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
  - This product is not classified as environmentally hazardous according to the UN Model Regulations.
  - This product is not classified as a marine pollutant according to the IMDG Code.
- 

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.
-





## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| CEIL   | Ceiling Limit   |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| STEL   | Short Term Exposure Limit                                     |
| TWA    | Time Weighted Average   |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |

<sup>1</sup> Centers for Disease Control and Prevention, 1600 Clifton Rd., Atlanta, GA, 30333, USA, National Institute for Occupational Health and Safety (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS) File #MW4025000, 2009.

<sup>2</sup> Wallen, I.E., W.C. Greer, and R. Lasater, Toxicity to *Gambusia affinis* of Certain Pure Chemicals in Turbid Waters, Sewage Ind.Wastes 29(6):695-711, 1957.

<sup>3</sup> <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/r?dbs+hsdb:@term+@rn+@rel+7647-01-0>, U.S. National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, 2009.



# Material Safety Data Sheet

## GHS-US Compliant

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### GHS product identifier

- Product Name: Pre-Coated EIA Plate
- Synonyms: 96 well immunoplate
- Product Form: Solid plastic
- Catalog Number: EK-PLATE

#### Intended use of the product

- For research use only.
- In-vitro preparation, laboratory chemicals.

#### Supplier details

- Company Name: Phoenix Pharmaceuticals, Inc.
- Address: 330 Beach Road, Burlingame, CA 94010
- Telephone: 1-650-558-8898
- Fax: 1-650-558-1686
- Email: info@phoenixpeptide.com
- Web: www.phoenixpeptide.com

### 2. HAZARDS IDENTIFICATION

#### OSHA/HCS status

- While this material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

#### Classification of the substance or mixture

- Not classified

#### GHS label elements

- The product does not need to be labeled in accordance with GHS-US or respective national laws.
- Signal word: No signal word.
- Hazard statements: No known significant effects or critical hazards.

#### Precautionary statements

- Prevention: Not applicable.
- Response: Not applicable.
- Storage: Not applicable.
- Disposal: Not applicable.
- Other hazards: No additional information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

- Synonyms: 96 well immunoplate
- Substance / mixture: Substance
- There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable, are listed in Section 8.



## 4. FIRST AID MEASURES

### Description of first aid measures

- General advice
  - This product should be treated as a chemical substance.
  - Appropriate personal protective equipment should be worn at all times when handling this product.
  - In case of doubt or if symptoms persist, please seek medical attention immediately.
- In the event of exposure by inhalation
  - Remove the exposed person to open, fresh air.
  - If any respiratory complaints are reported, oxygen can be administered.
- In the event of splashes or contact with eyes
  - If necessary, remove contact lenses.
  - Rinse eyes thoroughly with a stream of clean water for at least 15 minutes, holding the eyelids open.
- In the event of swallowing
  - Rinse mouth with large amounts of water.
  - Do not induce vomiting unless directed to do so by medical personnel.
  - NEVER induce swallowing or administer anything orally to an unconscious person.
- In the event of contact with skin
  - Remove contaminated clothing and footwear and wash before reuse.
  - Wash the affected skin thoroughly with plenty of mild soap and water for at least 15 minutes.

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

- No data available.

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

- No data available.
- 

## 5. FIREFIGHTING MEASURES

- Non-flammable.

### Extinguishing media

- Water spray, alcohol-resistant foam, carbon dioxide, dry chemical powder.

### Special hazards arising from the substance or mixture

- None known.

### Advice for firefighters

- None known.
- 

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Wear suitable protective clothing, gloves, and eyewear (see Section 8 of MSDS).
- Evacuate all personnel to safe areas.
- Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

### Environmental precautions

- Do not let product enter drains.
- Contain and control any leaks or spills with absorbent materials.
- Prevent pollution into sewage, surface, and ground water.
- Prevent soil pollution.

### Methods and material for containment and cleaning up

- Cover spillage with suitable absorbent material.
- Ventilate area of spill, and clean thoroughly with water and soap.
- Hold all material for appropriate disposal (section 13 of MSDS).

### Reference to other sections

- For required PPE, see section 8 of MSDS.
  - For disposal, see section 13 of MSDS.
-



## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Avoid inhalation. Use in a well-ventilated area.
- Avoid contact with skin, eyes, and clothing.
- Always wash hands after handling.
- Use suitable protective means to work with the substance.
- Do not eat, drink, or smoke in areas where this product is used.

### Conditions for safe storage, including any incompatibilities

- Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container sealed until ready for use.
- Recommended storage: +4°C.

### Specific end uses

- None known.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

- Contains no substances with occupational exposure limit values.

### Exposure controls

- Appropriate engineering controls
  - Ensure laboratory is equipped with a safety shower and eye wash station.
- Personal protection measures, such as personal protective equipment
  - Use clean personal protective equipment that has been properly maintained.
- Eye protection
  - Use appropriate chemical safety goggles.
- Hand protection
  - Use appropriate chemical resistive gloves.
  - Wash and dry hands before using.
- Body protection
  - Wear appropriate protective clothing.
- Respiratory protection
  - If requested by your safety advisor, use a suitable respirator.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- Appearance: translucent, clear plastic
- Odor: odorless
- Flammability: non-flammable

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## 10. STABILITY AND REACTIVITY

### Reactivity

- Stable under all known conditions.

### Chemical stability

- Stable under recommended storage conditions.

### Possibility of hazardous reactions

- None known.

### Conditions to avoid

- Heat, moisture.

### Incompatible materials

- None known.

### Hazardous decomposition products

- No known hazardous polymerization.



## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

- Skin corrosion / irritation
    - None known.
  - Serious damage to eyes / eye irritation
    - None known.
  - Respiratory or skin sensitization
    - None known.
- 

## 12. ECOLOGICAL INFORMATION

### Toxicity

- No data available.

### Persistence and degradability

- No data available.

### Bioaccumulative potential

- No data available.

### Mobility in soil

- No data available.

### Results of PBT and vPvB assessment

- No data available.

### Other adverse effects

- No data available.
- 

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

- Waste management is carried out without endangering human health, without harming the environment, and without risk to water, air, soil, plants, or animals.
  - Waste
    - Recycle or dispose of waste in compliance with current state, federal, and/or national legislation, preferably via a specialized certified disposal company.
  - Soiled packaging
    - Contaminated packaging can be disposed of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with state, federal, and/or national legislation.
-



## 14. TRANSPORT INFORMATION

- This product does not meet the criteria for classification as hazardous transport.
- This product is not classified as environmentally hazardous according to the UN Model Regulations.
- This product is not classified as a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

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

- No data available.

### Chemical safety assessment

- A Chemical Safety Assessment has not been made for this product.

## 16. OTHER INFORMATION

Phoenix Pharmaceuticals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct based on current knowledge, but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

### Abbreviations:

|        |   |
|--------|---|
| CAS    | Chemical Abstract Service                                     |
| EC     | European Council  |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINKS | European List of Notified Chemical Substances                 |
| EMS    | Express Mail Service  |
| EU     | European Union  |
| MSDS   | Material Safety Data Sheet                                    |
| OSHA   | Occupational Safety and Health Administration                 |
| PBT    | Persistent, Bioaccumulative and Toxic                         |
| PPE    | Personal Protective Equipment                                 |
| UN     | United Nations  |
| vPvB   | Very Persistent and Very Bioaccumulative                      |