Material Safety Data Sheet  
GHS-US Compliant

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

GHS product identifier
- Product Name: Leptin, recombinant (Human)
- Synonyms: None known
- Product Form: Lyophilized powder
- Catalog Number: 003-12

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: insoluble in water. Dissolve at 2 mg/ml in 15 mM HCl. After protein is completely dissolved, add 7.5 mM NaOH to bring pH up to ~5.2.
- 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
- ELINCS 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