



## TB-500 (Thymosin Beta-4)

Product: TB-500 (Thymosin Beta-4) - 5mg

Document ID: PG-SDS-TB500-5MG  
Revision Date: 2026-08-17  
Version: 1.1

### Section 1 - Product and Company Identification

|                  |                                                                        |
|------------------|------------------------------------------------------------------------|
| Product Name     | TB-500 (Thymosin Beta-4) - 5mg                                         |
| Chemical Name    | Thymosin Beta-4 (full length) / TB-500                                 |
| Synonyms         | TB-500; Thymosin Beta-4; Tbeta4                                        |
| Catalog / SKU    | TB-500-THYMOSIN-BETA-4                                                 |
| Product Category | Growth & Recovery                                                      |
| Recommended Use  | Laboratory research use only. Not for human or veterinary consumption. |
| Supplier         | Peptogenesis                                                           |
| Address          | 9905 S Pennsylvania Ave STE A, Oklahoma City, OK 73159                 |
| Website          | <a href="https://peptogenesis.com">https://peptogenesis.com</a>        |
| Email            | <a href="mailto:support@peptogenesis.com">support@peptogenesis.com</a> |
| Phone            | 539-281-5659                                                           |
| Emergency Phone  | 1-800-222-1222 (US Poison Control, 24 h)                               |

### Section 2 - Hazard Identification

GHS Classification: Not classified as hazardous under OSHA HCS (29 CFR 1910.1200) or GHS criteria.

Signal Word: Not applicable

GHS Pictogram: None required (not classified as hazardous).

Hazard Statements: No hazard statements required under GHS.

Precautionary Statements: Use general laboratory precautions. Wear protective gloves, eye protection, and a lab coat. Avoid inhalation of dust.

### Section 3 - Composition / Information on Ingredients

Single-substance product. Chemical identity:

| Ingredient                                  | CAS Number | Mol. Formula    | Mol. Weight   | Concentration / Amount |
|---------------------------------------------|------------|-----------------|---------------|------------------------|
| Thymosin Beta-4 (TB-500), full-length 43-aa | 77591-33-4 | C212H350N56O78S | 4963.44 g/mol | >98% (research grade)  |

Impurities: No hazardous impurities known to be present above the GHS classification thresholds specified in 29 CFR 1910.1200 Appendix A. Residual synthesis reagents, solvents, and counter-ions may be present at levels consistent with research-grade (>98% purity) material. Balance: non-hazardous impurities. Lot-specific analytical documentation may be available separately.

### Section 4 - First-Aid Measures

Inhalation: Remove to fresh air. Seek medical attention if symptoms develop or persist.



**Skin Contact:** Wash affected area thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if irritation persists.

**Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. Seek medical attention.

**Ingestion:** Do not induce vomiting. Rinse mouth with water. Seek immediate medical advice. Contact Poison Control (1-800-222-1222).

**Most Important Symptoms:** No specific symptoms known. May cause mild irritation to eyes, skin, and respiratory tract.

## Section 5 - Fire-Fighting Measures

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

**Unsuitable Extinguishing Media:** None known.

**Specific Hazards:** Combustion may produce carbon oxides, nitrogen oxides, and other toxic decomposition products.

**Protective Equipment for Firefighters:** Wear self-contained breathing apparatus and full protective clothing.

## Section 6 - Accidental Release Measures

**Personal Precautions:** Avoid dust formation and inhalation. Wear appropriate personal protective equipment (gloves, goggles, lab coat, dust mask).

**Environmental Precautions:** Prevent release to drains, waterways, or the environment.

**Containment and Cleanup:** Carefully collect material and place in a suitable, labeled container for disposal. Clean affected area with water. Ventilate the area.

## Section 7 - Handling and Storage

**Handling:** Use only in a well-ventilated laboratory environment. Avoid dust formation. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when handling. Wash hands thoroughly after handling.

**Storage:** Store lyophilized at -20°C, protect from light and moisture. Reconstituted: store at 2-8°C, use within 30 days.

**Incompatibilities:** Strong oxidizing agents, strong acids, strong bases.

## Section 8 - Exposure Controls / Personal Protection

**Exposure Limits:** No occupational exposure limits (OELs) have been established for this compound.

**Engineering Controls:** Use in a fume hood or equivalent local exhaust ventilation. Ensure adequate general ventilation.

**Personal Protective Equipment (PPE):**

- Respiratory protection: Dust mask or NIOSH-approved respirator if dust is generated.
- Hand protection: Chemical-resistant nitrile gloves.
- Eye protection: Chemical safety goggles or safety glasses with side shields.
- Skin and body protection: Lab coat and closed-toe footwear.

## Section 9 - Physical and Chemical Properties

|                                                |                                       |
|------------------------------------------------|---------------------------------------|
| <b>Appearance</b>                              | White to off-white lyophilized powder |
| <b>Odor</b>                                    | Odorless to faint characteristic odor |
| <b>Odor Threshold</b>                          | Not available                         |
| <b>pH</b>                                      | 5-7 (1 mg/mL aqueous solution)        |
| <b>Melting / Freezing Point</b>                | Not determined                        |
| <b>Initial Boiling Point and Boiling Range</b> | Not applicable (solid)                |



|                                                         |                                                            |
|---------------------------------------------------------|------------------------------------------------------------|
| <b>Flash Point</b>                                      | Not applicable (non-flammable solid)                       |
| <b>Evaporation Rate</b>                                 | Not applicable (solid)                                     |
| <b>Flammability (solid, gas)</b>                        | Not flammable under normal conditions                      |
| <b>Upper / Lower Flammability or Explosive Limits</b>   | Not available                                              |
| <b>Vapor Pressure</b>                                   | Not applicable (solid)                                     |
| <b>Vapor Density</b>                                    | Not applicable (solid)                                     |
| <b>Relative Density</b>                                 | Not determined                                             |
| <b>Solubility(ies)</b>                                  | Soluble in water and bacteriostatic water; soluble in DMSO |
| <b>Partition Coefficient: n-octanol/water (log Kow)</b> | Not available                                              |
| <b>Auto-ignition Temperature</b>                        | Not available                                              |
| <b>Decomposition Temperature</b>                        | Not available                                              |
| <b>Viscosity</b>                                        | Not applicable (solid)                                     |

## Section 10 - Stability and Reactivity

Reactivity: No reactivity hazards expected under normal storage and handling conditions.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None known under normal conditions.

Conditions to Avoid: Heat, direct sunlight, moisture, freeze/thaw cycles (for reconstituted material).

Incompatible Materials: Strong oxidizing agents, strong acids, and strong bases.

Hazardous Decomposition Products: Carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and other toxic organic fragments on combustion.

## Section 11 - Toxicological Information

Routes of Exposure: Inhalation of dust, skin contact, eye contact, accidental ingestion.

Acute Toxicity: No specific toxicological data available for this compound. Not tested for human or animal toxicity by the supplier. LD50 and LC50 values: Not available.

Skin Corrosion / Irritation: May cause mild irritation on prolonged contact.

Serious Eye Damage / Irritation: May cause mild irritation.

Respiratory or Skin Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: Not listed by IARC, NTP, or OSHA as a carcinogen.

Reproductive Toxicity: No data available.

STOT — Single Exposure: No data available. Not expected to cause specific target organ toxicity from a single exposure based on the available information.

STOT — Repeated Exposure: No data available. Not expected to cause specific target organ toxicity from repeated exposure based on the available information.

Aspiration Hazard: Not applicable. Product is supplied as a solid or lyophilized powder; aspiration classification criteria apply to liquid products only.

NOTE: This product is supplied for laboratory research use only. Toxicological data is limited. Handle as a potentially hazardous material.



## Section 12 - Ecological Information

Ecotoxicity: No ecotoxicological data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: Avoid release to the environment.

## Section 13 - Disposal Considerations

Waste Treatment: Dispose of contents and container in accordance with local, state/provincial, and federal regulations. Do not release to drains, waterways, or the environment. Contact a licensed hazardous waste disposal service if necessary.

## Section 14 - Transport Information

|                                            |                                                                  |
|--------------------------------------------|------------------------------------------------------------------|
| UN Number                                  | Not regulated                                                    |
| UN Proper Shipping Name                    | Not regulated for transport                                      |
| Transport Hazard Class (DOT / IATA / IMDG) | Not classified                                                   |
| Packing Group                              | Not applicable                                                   |
| Environmental Hazards                      | Not a marine pollutant                                           |
| Special Precautions                        | Keep dry. Protect from physical damage and temperature extremes. |

## Section 15 - Regulatory Information

- United States (OSHA): Complies with the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- TSCA Inventory: Research use only. Not evaluated for TSCA listing.
- SARA Title III (Sections 302, 304, 311, 312, 313): Not listed.
- California Proposition 65: Not listed.
- Canada (WHMIS): Not classified as a controlled product.
- This product is sold for laboratory research use only and is not intended for human consumption, veterinary use, food use, or cosmetic use.

## Section 16 - Other Information

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| SDS Version           | 1.1                                                                    |
| Date Prepared         | 2026-08-17                                                             |
| Date of Last Revision | 2026-08-17                                                             |
| Prepared By           | Peptogenesis Compliance                                                |
| Issued By             | Peptogenesis<br>9905 S Pennsylvania Ave STE A, Oklahoma City, OK 73159 |
| Format                | OSHA HCS 2012 / GHS Rev 3 (16-section format)                          |
| Reference Standards   | 29 CFR 1910.1200 Appendix D; ANSI Z400.1                               |



## Revision Summary

Corrected composition, identity, and handling language; Peptogenesis reissue.

Key to abbreviations: CAS = Chemical Abstracts Service; GHS = Globally Harmonized System; HCS = Hazard Communication Standard; IARC = International Agency for Research on Cancer; LC50 = Lethal Concentration, 50%; LD50 = Lethal Dose, 50%; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OEL = Occupational Exposure Limit; OSHA = Occupational Safety and Health Administration; PPE = Personal Protective Equipment; STOT = Specific Target Organ Toxicity; SDS = Safety Data Sheet; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

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