

SAFETY DATA SHEET

Version 1.0
Revision Date 09/29/2026
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SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : **TB-500 (Thymosin Beta-4) 5 mg / 10 mg (Lyophilized)**
Product Number : TB500-5MG, TB500-10MG
Brand : 4AminoLabs
CAS-No. (active) : 77591-33-4
Reference batch : See container label

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory research and analytical reference use.
Uses advised against : Not for human or veterinary use. Not a drug, dietary supplement, food, or cosmetic.
Supplied under the TSCA R&D Exemption (40 CFR Section 720.36); it is the recipient's responsibility to comply with the requirements of the R&D exemption.

1.3 Details of the supplier of the safety data sheet

Company : 4AminoLabs
1001 S. Main Street, STE 600
Kalispell, MT 59901
UNITED STATES
Telephone : +1 (256) 472-1983
E-mail : sales@4aminolabs.com
Website : www.4aminolabs.com

1.4 Emergency telephone number

Emergency Phone # : Poison Control Center (US): 1-800-222-1222 (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS label elements

Hazard pictograms : None
Signal word : None
Hazard statements : None
Precautionary statements : None

Other hazards

Substance not yet fully tested. Biologically active peptide; avoid inhalation of the powder and contact with skin and eyes.
Lyophilized powder may become airborne when the vial is opened.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture (lyophilized solid)

Components

Chemical name	CAS-No.	Concentration
TB-500 (Thymosin beta-4) Synonyms: thymosin beta-4; Tβ4 Formula: C ₂₁₂ H ₃₅₀ N ₅₆ O ₇₈ S Molecular weight: 4963.5 g/mol	77591-33-4	5 mg or 10 mg per vial
D-Mannitol (lyophilization bulking agent)	69-65-8	Balance

Supplied as a freeze-dried (lyophilized) cake in a sealed glass vial. D-Mannitol is not classified as hazardous.

SECTION 4. FIRST AID MEASURES

General advice	: Show this safety data sheet to the doctor in attendance if symptoms occur.
If inhaled	: After inhalation: fresh air. Call in physician if symptoms develop.
In case of skin contact	: Rinse skin with water/ shower.
In case of eye contact	: After eye contact: rinse out with plenty of water for at least 15 minutes. Remove contact lenses.
If swallowed	: After swallowing: rinse mouth, make victim drink water (two glasses at most). Consult a physician if feeling unwell.
Most important symptoms and effects, both acute and delayed	: No data available. The pharmacological properties of this peptide have not been fully characterized. See section 11.
Protection of first-aiders	: For personal protection see section 8.
Notes to physician	: Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray, dry powder, foam, carbon dioxide (CO ₂).
Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during firefighting	: Combustible solid in finely divided form. Quantities supplied are small.
Hazardous combustion products	: Carbon oxides Nitrogen oxides (NO _x) Sulfur oxides
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Avoid dust formation and inhalation of the powder. Avoid substance contact. For personal protection see section 8.
Environmental precautions	: Do not let product enter drains.
Methods and materials for containment and cleaning up	: Broken vials: collect glass and powder carefully with tongs or a dustpan, avoiding dust generation; wipe residue with a damp cloth. Reconstituted solution: take up with absorbent material. Place in a closed, labeled container and dispose of properly (see section 13). Beware of sharp glass.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	: Handle only by qualified personnel in a laboratory setting. Allow the vial to reach room temperature before opening to limit moisture uptake. Reconstitute using aseptic technique. Avoid formation and inhalation of dust.
Hygiene measures	: Wash hands after working with substance. Do not eat, drink, or smoke in work areas.

Further information on storage conditions	: Tightly closed. Dry. Protect from light. Reconstituted solutions: store refrigerated at 2 - 8 °C (36 - 46 °F) and do not freeze-thaw repeatedly.
Storage class	: 11, Combustible Solids
Recommended storage temperature	: Lyophilized: -4 °F / -20 °C (long term); room temperature acceptable for short-term transport
Materials to avoid	: Strong oxidizing agents.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	: Open vials and handle dry powder in a biological safety cabinet, fume hood, or ventilated enclosure.
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Personal protective equipment

Respiratory protection	: Not required under normal use. If dust is generated outside of a ventilated enclosure, use a NIOSH-approved N95 or P100 particulate respirator.
Hand protection	: Material: Nitrile rubber Glove thickness: minimum 0.11 mm Protective index: full contact and splash contact Remarks: Inspect gloves before use and dispose of after contamination.
Eye protection	: Safety glasses with side shields tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin and body protection	: Laboratory coat.
Hygiene measures	: Wash hands after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Solid, lyophilized cake/powder in a sealed vial
Color	: White to off-white
Odor	: No data available
Odor Threshold	: No data available
pH	: No data available
Melting point	: No data available
Boiling point/boiling range	: Not applicable
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: No data available
Upper/lower explosion limit	: No data available
Vapor pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: No data available
Water solubility	: Soluble (sterile or bacteriostatic water)
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: Not applicable

Explosive properties	: No data available
Oxidizing properties	: No data available
Molecular weight	: 4963.5 g/mol (TB-500 (Thymosin beta-4))

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: Stable under recommended storage conditions. Hygroscopic; the lyophilized peptide degrades on exposure to moisture and heat.
Possibility of hazardous reactions	: No data available
Conditions to avoid	: Moisture, heat, direct light, repeated freeze-thaw cycles of reconstituted solutions.
Incompatible materials	: Strong oxidizing agents, strong acids, strong bases.
Hazardous decomposition products	: In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available. Peptides may cause sensitization in susceptible individuals on repeated exposure.

Germ cell mutagenicity

No data available

Carcinogenicity

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

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

Not applicable

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

This product neither contains, nor was manufactured with, a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : Waste material must be disposed of in accordance with national, state, and local regulations using a licensed waste disposal contractor. Leave chemicals in original containers. No mixing with other waste. Do not dispose of in household trash or sewer.
- Contaminated packaging : Handle uncleaned containers like the product itself.
- Dispose of broken glass vials in a sharps or broken-glass container.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

National Regulations

49 CFR (DOT)

Not regulated as a dangerous good

Poison Inhalation Hazard : No

Special precautions for user : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 302 / 304 Extremely Hazardous Substances

This material does not contain any components with a section 302 EHS TPQ or section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

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

Clean Air Act

This product does not contain any hazardous air pollutants (HAP) as defined by the U.S. Clean Air Act Section 112 (40 CFR 61), nor any Class I or Class II ODS.

Clean Water Act

This product does not contain any Hazardous Substances listed under Section 311, Table 116.4A, or toxic or priority pollutants under Section 307.

US State Regulations

Massachusetts Right To Know	: No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know	: No components are subject to the Pennsylvania Right to Know Act.
New Jersey Right To Know	: No components are subject to the New Jersey Right to Know Act.
Maine / Vermont / Washington Chemicals of High Concern	: Product does not contain any listed chemicals.
California Prop. 65	: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Inventories

TSCA	: Product contains substance(s) not listed on the TSCA inventory. Supplied for research and development use only under 40 CFR 720.36.
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SECTION 16. OTHER INFORMATION

Full text of other abbreviations

CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA-DGR - International Air Transport Association Dangerous Goods Regulations; IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population; NIOSH - National Institute for Occupational Safety and Health; NTP - National Toxicology Program; ODS - Ozone Depleting Substance; OSHA - Occupational Safety and Health Administration; PPE - Personal Protective Equipment; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average.

For research use only. Not for human or veterinary use. The information is believed to be correct but is not exhaustive and shall be used solely as a guideline, based on current knowledge of the chemical substance or mixture, and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. 4AminoLabs shall not be held liable for any damage resulting from handling or from contact with the above product. The burden of safe use rests with the user.

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