

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP)
as retained in UK law

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

Version: 1.0 **Date of issue:** 14 August 2026

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: TB-500 (Thymosin Beta-4) 5mg

Chemical name: Thymosin β 4 / Thymosin Beta-4

Synonyms: TB500, Thymosin beta-4 acetate

CAS number: 77591-33-4

Molecular formula: C₂₁₂H₃₅₀N₅₆O₇₈S

Molecular weight: 4963.4 g/mol

1.2 Relevant identified uses of the substance and uses advised against

Identified uses: Laboratory and scientific research use only (in vitro).

Uses advised against: Not for human or veterinary use, including diagnostic, therapeutic, prophylactic or in vivo administration of any kind. Not for use in or as a food, drug, medical device, cosmetic, household product, or any other commercial application.

1.3 Details of the supplier of the Safety Data Sheet

Supplier: Peptide Origin

Address: United Kingdom

Email: sales@peptideorigin.com

1.4 Emergency telephone number

Contact your local poison centre or emergency services.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not classified as hazardous according to Regulation (EC) No 1272/2008 (CLP) based on currently available data.

2.2 Label elements

No GHS pictogram, signal word or hazard statements required under current classification.

2.3 Other hazards

May cause mild mechanical irritation if inhaled as dust or if it contacts eyes or skin. Handle as a biologically active research peptide. Residual process-related substances such as trifluoroacetate counter-ions and residual solvents may be present at levels below classification thresholds.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name: Thymosin β 4 / Thymosin Beta-4

CAS number: 77591-33-4

Molecular formula: C₂₁₂H₃₅₀N₅₆O₇₈S

Molecular weight: 4963.4 g/mol

Purity: $\geq$ 98% (HPLC) – refer to batch-specific Certificate of Analysis.

May contain residual trifluoroacetate or process-related solvents at levels below classification thresholds.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

Inhalation: Move person to fresh air. If breathing is difficult, seek medical attention.

Skin contact: Wash with soap and plenty of water. If irritation develops or persists, seek medical advice.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

Ingestion: Rinse mouth with water. Do not induce vomiting. Seek medical advice if a large quantity is swallowed.

4.2 Most important symptoms and effects

May cause mild mechanical irritation to eyes, skin or respiratory tract upon exposure to powder.

4.3 Indication of any immediate medical attention

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable: Water spray, dry chemical, foam or carbon dioxide.

5.2 Special hazards arising from the substance

Combustion may produce carbon oxides, nitrogen oxides and (where applicable) sulphur oxides.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions

Wear appropriate personal protective equipment (gloves, eye protection, laboratory coat). Avoid generation and inhalation of dust.

6.2 Environmental precautions

Do not allow material to enter drains, sewers or watercourses.

6.3 Methods for containment and cleaning up

Sweep or vacuum carefully (prefer HEPA-filtered vacuum). Place in a suitable closed container for disposal. Clean residual surfaces with water.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good laboratory practice. Use in a well-ventilated area or fume hood. Avoid inhalation of powder and contact with eyes, skin and clothing. Wear appropriate PPE. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage

Store the sealed vial at -20°C , protected from light and moisture. Allow the vial to reach room temperature before opening to prevent condensation. Once reconstituted, refrigerate and protect from light. Avoid repeated freeze-thaw cycles; aliquot if multiple uses are expected.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No occupational exposure limits have been established for this substance.

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation or a fume hood when handling powder.

Eye/face protection: Safety glasses conforming to EN 166.

Hand protection: Nitrile gloves conforming to EN 374.

Skin protection: Laboratory coat.

Respiratory protection: Not normally required under adequate ventilation. Use a dust mask (P2/P3) if dust is generated.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: White to off-white lyophilised powder

Odour: Odourless

pH: Not applicable (solid)

Melting point / freezing point: Not determined

Boiling point: Not determined

Flash point: Not applicable

Flammability: Not flammable

Solubility: Soluble in water / bacteriostatic water

Explosive properties: Not explosive

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific reactivity hazards under recommended storage and handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions (–20 °C, protected from light and moisture).

10.3 Possibility of hazardous reactions

None known under normal conditions of use.

10.4 Conditions to avoid

Excessive heat, moisture, strong oxidising agents, and repeated freeze-thaw cycles once reconstituted.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Carbon oxides, nitrogen oxides and (where applicable) sulphur oxides under fire conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: No data available. Not classified.

Skin corrosion/irritation: May cause mild mechanical irritation.

Serious eye damage/irritation: May cause mild mechanical irritation.

Respiratory or skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

STOT-single exposure / STOT-repeated exposure: No data available.

Aspiration hazard: Not applicable.

Handle as a bioactive research peptide of unknown full toxicological profile.

SECTION 12: Ecological information

No specific ecological data available. Do not discharge into the environment, drains or watercourses.

SECTION 13: Disposal considerations

Dispose of contents and container in accordance with local, regional, national and international regulations. Do not dispose into drains. Contaminated packaging should be disposed of as unused product.

SECTION 14: Transport information

Not classified as dangerous goods for transport under ADR/RID, IMDG or IATA regulations.

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class: Not applicable

Packing group: Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations

This product is intended for research use only. It is not subject to authorisation under REACH for the intended laboratory research use. The product is not intended for human consumption, therapeutic use, or any regulated medical application.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

SECTION 16: Other information

The information provided in this Safety Data Sheet is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be construed as guaranteeing any specific

property of the product.

Users must determine the suitability of this product for their specific intended use and must comply with all applicable laws and regulations.

This product is sold strictly for laboratory research purposes and is not for human or animal consumption.

— End of Safety Data Sheet —