

AP AMERICAN PEPTIDES

RESEARCH-GRADE PEPTIDES · INDEPENDENTLY VERIFIED

SAFETY DATA SHEET

PREPARED PER OSHA HAZCOM 2012 · 29 CFR 1910.1200 · GHS

TB-500DOCUMENT **SDS-AP-TB500** | VERSION **1.0**ISSUED **06 JULY 2026** | SUPERSEDES **NONE** | REVIEW **ANNUALLY****SUBSTANCE IDENTITY**

CAS NO.	77591-33-4
MOLECULAR FORMULA	$C_{212}H_{350}N_{56}O_{78}S$
MOLECULAR WEIGHT	4963.44 g/mol
APPEARANCE	White to off-white lyophilized powder
PURITY	≥ 99% (RP-HPLC)

AMINO-ACID SEQUENCE

Ac-Ser-Asp-Lys-Pro-Asp-Met-Ala-Glu-Ile-Glu-Lys-Phe-Asp-Lys-Ser-Lys-Leu-Lys-Lys-Thr-Glu-Thr-Gln-Glu-Lys-Asn-Pro-Leu-Pro-Ser-Lys-Glu-Thr-Ile-Glu-Gln-Glu-Lys-Gln-Ala-Gly-Glu-Ser

NOT CLASSIFIED AS HAZARDOUS

Does not meet GHS classification criteria (OSHA HazCom 2012). No signal word, hazard pictogram, or hazard statement required. Handle per good laboratory practice — see Sections 7 & 8.

**HMIS® III RATING**

HEALTH	1
FLAMMABILITY	0
PHYS. HAZARD	0

NFPA 704: Health 1 · Flammability 0 · Reactivity 0

1 Identification

PRODUCT IDENTIFIER	TB-500 — research peptide, lyophilized powder
SYNONYMS	Thymosin β4 (fragment); Tβ4 acetate
PRODUCT CODE	AP-TB500
RECOMMENDED USE	Research Use Only (RUO) — laboratory research, analytical, and scientific applications.
USES ADVISED AGAINST	Not for human or veterinary use; not a drug, food, cosmetic, dietary supplement, or household product; not for diagnostic or therapeutic use.
SUPPLIER	American Peptides · 9742 St. Vincent Ave, Shreveport, LA 71106, USA · americanpeptides.us · support@americanpeptides.us
EMERGENCY TELEPHONE	U.S. Poison Control Center: 1-800-222-1222 (24-hour). For chemical spill/transport emergencies, contact your regional emergency-response service.

2 Hazard(s) Identification

GHS CLASSIFICATION	Not classified as a hazardous substance or mixture per OSHA HazCom 2012 (29 CFR 1910.1200) / GHS.
SIGNAL WORD	None
PICTOGRAMS	None required
HAZARD STATEMENTS	None
PRECAUTIONARY (GLP)	P262 avoid eye/skin/clothing contact P270 no eating/drinking/smoking P280 wear gloves & eye protection P501 dispose per regulations
OTHER HAZARDS	Toxicological properties have not been fully investigated. May be harmful if inhaled, swallowed, or absorbed through skin. Avoid formation and inhalation of dust. Not assessed as PBT or vPvB.

3 Composition / Information on Ingredients

SUBSTANCE TYPE	Single substance (synthetic peptide)
CHEMICAL NAME	TB-500 (Thymosin β4 (fragment); Tβ4 acetate)
CAS NO. / EC NO.	77591-33-4 / not assigned
MOLECULAR FORMULA	$C_{212}H_{350}N_{56}O_{78}S$ · MW 4963.44 g/mol
CONCENTRATION	≥ 99% (RP-HPLC); balance: residual synthesis salts/moisture
HAZARDOUS IMPURITIES	None present at reportable concentrations

4 First-Aid Measures

INHALATION	Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
SKIN CONTACT	Wash with plenty of soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.
EYE CONTACT	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if irritation persists.
INGESTION	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
SYMPTOMS / EFFECTS	<i>No specific data available; symptoms of overexposure are not established.</i>
NOTE TO PHYSICIAN	Treat symptomatically. Contact U.S. Poison Control (1-800-222-1222).

5 Fire-Fighting Measures

SUITABLE MEDIA	Water spray, dry chemical, carbon dioxide (CO ₂), or alcohol-resistant foam.
UNSUITABLE MEDIA	None known.
SPECIAL HAZARDS	Thermal decomposition may release carbon oxides (CO, CO ₂) and nitrogen oxides (NO _x).
ADVICE FOR FIREFIGHTERS	Wear self-contained breathing apparatus (SCBA) and full protective equipment.

6 Accidental Release Measures

PERSONAL PRECAUTIONS	Wear appropriate PPE (Section 8). Avoid dust formation and inhalation. Ensure adequate ventilation.
ENVIRONMENTAL PRECAUTIONS	Prevent entry into drains, waterways, and soil.
CONTAINMENT & CLEANUP	Collect using dust-suppressing methods; place in a sealed, labeled container for disposal. Avoid generating airborne dust. Clean the affected surface after removal.

7 Handling and Storage

SAFE HANDLING	Use only in a well-ventilated area or under a fume hood / laminar-flow enclosure. Wear PPE. Avoid contact with skin, eyes, and clothing; avoid inhalation and ingestion. Follow Good Laboratory Practice (GLP). Wash hands thoroughly after handling.
STORAGE CONDITIONS	Store the lyophilized powder tightly sealed at -20 °C , protected from light and moisture. Avoid repeated freeze-thaw of reconstituted solutions; prepare fresh and store cold. Keep away from incompatible materials (Section 10).
SHELF LIFE	Per batch Certificate of Analysis — verify at americanpeptides.us/pages/coa .

8 Exposure Controls / Personal Protection

EXPOSURE LIMITS	No occupational exposure limits (OEL / PEL / TLV) have been established for this substance.
ENGINEERING CONTROLS	Adequate general ventilation; handle under a fume hood where dust may be generated. Provide accessible eyewash station and safety shower.
EYE / FACE	Safety glasses or goggles (ANSI Z87.1 / EN166).
SKIN / BODY	Nitrile gloves; laboratory coat.
RESPIRATORY	If dust is generated, wear a NIOSH-approved N95 (or better) respirator.

9 Physical and Chemical Properties

APPEARANCE	White to off-white lyophilized powder (solid)	SOLUBILITY	Soluble in water & aqueous buffers; soluble in DMSO
ODOR	Odorless / <i>no data</i>	LOG P _{OW}	<i>No data</i>
PH	<i>No data</i> (dilute aqueous ≈ neutral)	AUTOIGNITION	<i>No data</i>
MELTING POINT	<i>No data</i>	DECOMP. TEMP.	<i>No data</i>
BOILING POINT	Not applicable (decomposes)	PHYSICAL STATE	Solid
FLASH POINT	Not applicable	MOLECULAR FORMULA	C ₂₁₂ H ₃₅₀ N ₅₆ O ₇₈ S
FLAMMABILITY	Not flammable	MOLECULAR WEIGHT	4963.44 g/mol
VAPOR PRESSURE	Negligible		

10 Stability and Reactivity

REACTIVITY	Not reactive under normal conditions of use and storage.
CHEMICAL STABILITY	Stable as a lyophilized powder under recommended storage. Reconstituted solutions are less stable — keep cold and use promptly.
HAZARDOUS REACTIONS	None known; will not undergo hazardous polymerization.
CONDITIONS TO AVOID	Heat, moisture, direct light, and repeated freeze-thaw cycles.
INCOMPATIBLE MATERIALS	Strong oxidizing agents; strong acids and bases.
DECOMPOSITION PRODUCTS	Carbon oxides (CO, CO ₂) and nitrogen oxides (NO _x) on thermal decomposition.

11 Toxicological Information

ACUTE TOXICITY	<i>No data</i> — LD ₅₀ /LC ₅₀ not determined	MUTAGENICITY	<i>No data</i>
SKIN CORROSION/IRRIT.	<i>No data</i>	CARCINOGENICITY	Not listed by IARC, NTP, or OSHA
EYE DAMAGE/IRRIT.	<i>No data</i>	REPRODUCTIVE TOX.	<i>No data</i>
SENSITIZATION	<i>No data</i>	STOT / ASPIRATION	<i>No data</i>

This product is supplied for research use only; its toxicological properties have not been thoroughly investigated. Handle as a substance of unknown toxicity.

12 Ecological Information

ECOTOXICITY	<i>No data</i>	BIOACCUMULATION	<i>No data</i>
PERSISTENCE/DEGRAD.	<i>No data</i>	MOBILITY / PBT	Not assessed — avoid release to the environment

13 Disposal Considerations

WASTE TREATMENT	Dispose of contents and container in accordance with local, state, and federal regulations. Do not discharge into drains, waterways, or the environment. Where required, use a licensed waste-disposal contractor.
CONTAMINATED PACKAGING	Dispose of as unused product.

14 Transport Information

DOT / IATA / IMDG	Not regulated as dangerous goods.
UN NUMBER	None
PROPER SHIPPING NAME	Not applicable
HAZARD CLASS / PG	None / None
ENVIRONMENTAL HAZARDS	None known
SPECIAL PRECAUTIONS	Maintain cold-chain during transport where required to preserve product integrity.

15 Regulatory Information

PRODUCT STATUS	Research Use Only (RUO). Not approved by the U.S. FDA. Not intended for human or veterinary use, nor for use as a drug, food, dietary supplement, cosmetic, or household product.
TSCA (US)	Used for research and development; not for general commercial distribution as a chemical substance.
SARA 311/312	No applicable hazard categories
CALIFORNIA PROP 65	No listed components known to the State of California to cause cancer or reproductive harm
STANDARD APPLIED	Prepared in accordance with OSHA HazCom 2012 (29 CFR 1910.1200) and GHS.

16 Other Information

DATE OF ISSUE	06 July 2026 · Version 1.0 · Supersedes: None
HAZARD RATINGS	NFPA 704 — Health 1, Flammability 0, Reactivity 0. HMIS III — Health 1, Flammability 0, Physical Hazard 0.
KEY TO ABBREVIATIONS	GHS Globally Harmonized System · RUO Research Use Only · GLP Good Laboratory Practice · OEL/PEL/TLV Occupational Exposure Limit / Permissible Exposure Limit / Threshold Limit Value · PBT/vPvB Persistent-Bioaccumulative-Toxic / very Persistent very Bioaccumulative · SCBA Self-Contained Breathing Apparatus · No data = information not available.

Disclaimer. The information in this Safety Data Sheet is provided in good faith and believed to be accurate as of the date of issue. It relates only to the specific material identified and to research-use-only conditions; it may not be valid if the material is used in combination with any other materials or in any process not described herein. Because conditions of use are outside our control, American Peptides makes no warranty, express or implied, and assumes no liability in connection with any use of this information. The user is responsible for determining suitability and for ensuring safe handling, storage, use, and disposal in compliance with all applicable laws and regulations. This document does not constitute a specification; batch-specific data is provided on the Certificate of Analysis.