



SAFETY DATA SHEET

GHS / OSHA HazCom 2012 Compliant

Minuteman Peptides, LLC

TB-500

CAS: 885340-08-9

Formula: C38H68N10O14

Document ID: 6595e438

Revision Date: 2026-07-18

Version: 1.0

Section 1 — Product and Company Identification

Product Name	TB-500
Synonyms	TB500; 885340-08-9; UNII-QHK6Z47GTG
CAS Number	885340-08-9
Molecular Formula	C38H68N10O14
IUPAC Name	(2S)-2-[[[(2S,3R)-2-[[[(2S)-2-[[[(2S,3R)-2-[[[(2S)-2-[[[(2S)-2-acetamido-4-methylpentanoyl]amino]-6-aminohexanoyl]amino]-6-aminohexanoyl]amino]-3-hydroxybutanoyl]amino]-4-carboxybutanoyl]amino]-3-hydroxybutanoyl]amino]-5-amino-5-oxopentanoic acid
Identified Uses	Research laboratory chemical for in vitro scientific research and development use only.
Restriction on Use	Not for human or veterinary use. Not for food, drug, cosmetic, household, agricultural, clinical, therapeutic, or diagnostic applications.

Manufacturer / Supplier

Company	Minuteman Peptides, LLC
Address	53 Knox Trail, Suite 200, Acton, MA 01720, US
Phone	978-596-1533
Website	https://minutemanpeptides.com/
Emergency Contact	CHEMTREC
Emergency Phone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

Section 2 — Hazard Identification

Classification of the substance

Not classified based on currently available data; however, data is limited and hazards cannot be fully characterized. The absence of classification should not be interpreted as a determination of the absence of hazard.

Classification has been conducted in accordance with 29 CFR 1910.1200 (OSHA HazCom 2012) and GHS Rev.8 using all available data and scientifically valid weight-of-evidence approaches (GHS Rev.8 Chapter 1.3.2.4), including read-across from chemical class and structural considerations where substance-specific study data is not available.

Signal Word: None

GHS Pictograms:

None required based on classification.

Hazard Statements

None. This substance is not classified for any GHS hazard class based on available data.

Precautionary Statements

- P261: Avoid breathing dust, fume, gas, mist, vapors, or spray.
- P264: Wash hands and exposed skin thoroughly after handling.
- P280: Wear protective gloves, protective clothing, and eye/face protection.
- P501: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Precautionary statements are provided as best practice for handling substances with limited toxicological data, and are not a declaration of GHS classification.

Hazards Not Otherwise Classified (HNOC)

None known based on available data and weight-of-evidence assessment. The toxicological properties of this substance have not been fully characterized; handle as a potentially bioactive substance of unknown toxicity.

Section 3 — Composition / Information on Ingredients

Single-substance product. Chemical identity:

Ingredient	CAS Number	Mol. Formula	Mol. Weight	Concentration
TB-500	885340-08-9	C38H68N10O14	889 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. Refer to the accompanying Certificate of Analysis (CoA) for the lot-specific impurity profile.

Section 4 — First Aid Measures

Eye Contact

Rinse cautiously with water for several minutes. If irritation persists, seek medical advice.

Skin Contact

Wash with soap and water. Remove contaminated clothing and wash before reuse. If irritation persists, seek medical advice.

Inhalation

Move affected person to fresh air. If symptoms develop, seek medical advice.

Ingestion

Rinse mouth thoroughly with water. If large amounts are swallowed or if symptoms develop, seek medical advice. Do not induce vomiting unless directed by medical personnel.

Note to Physician

Treat symptomatically. No specific antidote known.

Section 5 — Fire Fighting Measures

Flash Point: *Not determined*

Suitable Extinguishing Media

Use extinguishing media appropriate to the surrounding fire conditions. Carbon dioxide (CO₂), dry chemical powder, foam, or water spray.

Special Hazards

May produce toxic gases upon combustion. Carbon monoxide and other combustion products may be generated.

Protective Equipment for Firefighters

Wear self-contained breathing apparatus (SCBA) and full protective gear. Do not enter fire area without proper protective equipment.

Section 6 — Accidental Release Measures

Personal Precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment as described in Section 8.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter drains, sewers, or waterways.

Containment and Cleanup

Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid raising dust. Clean contaminated surface thoroughly. Dispose of waste in accordance with local regulations (see Section 13).

Section 7 — Handling and Storage

Handling Precautions

Handle as a potentially bioactive synthetic peptide of unknown toxicity. Conduct all weighing, transfer, and reconstitution operations in a chemical fume hood or, where airborne powder generation is possible, in a ventilated weighing enclosure or biosafety cabinet to control inhalation exposure, consistent with OSHA's general duty to minimize employee exposure to hazardous chemicals (29 CFR 1910.1200) and OSHA's Laboratory Standard (29 CFR 1910.1450). Wear appropriate personal protective equipment as specified in Section 8, including chemical-resistant nitrile gloves, a buttoned lab coat, and ANSI Z87.1-compliant safety eyewear; use a NIOSH-approved particulate respirator (e.g., N95 or higher) when handling the dry powder in a manner that may generate dust. Avoid formation of dust and aerosols; do not breathe dust, mist, or vapor. Avoid contact with skin, eyes, and clothing, and avoid ingestion. Do not eat, drink, or smoke in areas where this material is handled. Allow sealed containers to equilibrate to room temperature before opening to minimize condensation and moisture uptake by the lyophilized solid (general best practice for lyophilized peptides). Reseal containers immediately after use, preferably under an inert atmosphere (nitrogen or argon) to limit oxidation and hydration. Wash hands and exposed skin thoroughly after handling. Decontaminate work surfaces and reusable equipment after use, and manage waste in accordance with Section 13 and applicable EPA/RCRA and local regulations.

Storage Conditions

Store the lyophilized solid in a tightly closed original container, protected from light, moisture, and air. Keep under an inert atmosphere (nitrogen or argon) where practical, and store with a desiccant in a cool, dry, well-ventilated area. As a general practice for lyophilized peptides, long-term storage at -20 degC or lower (with -80 degC preferred for extended storage) is recommended; reconstituted aqueous solutions should be aliquoted to avoid repeated freeze-thaw cycles and stored frozen. Allow containers to warm to ambient temperature before opening to prevent moisture condensation onto the hygroscopic solid. Keep separated from incompatible materials (see below), foodstuffs, and oxidizers. Store in a secure area with restricted access to trained personnel only. No specific manufacturer- or regulatory-assigned shelf life is established by an authoritative source for this peptide; verify integrity (appearance, solubility, analytical purity) before use.

Incompatibilities

Strong oxidizing agents, strong acids, strong bases.

Section 8 — Exposure Controls / Personal Protection

Exposure Limits

No regulatory occupational exposure limits (OEL) have been established by OSHA, ACGIH, NIOSH, or equivalent bodies. No biological exposure indices (BEIs) have been established. Control exposure to the lowest level reasonably achievable (ALARA) using the engineering controls and PPE specified below. Handle as a potentially bioactive substance of unknown toxicity.

Engineering Controls

Use in a well-ventilated area. Weighing, transfer, and manipulation of the dry lyophilized powder should be performed inside a ventilated enclosure such as a certified chemical fume hood, ventilated balance enclosure, or Class I/II biosafety cabinet to prevent the generation and inhalation of airborne particulates. For reconstituted solutions, local exhaust ventilation is recommended where aerosols may be generated (e.g., vortexing, sonication, open transfers). Eyewash stations and emergency safety showers must be readily accessible in the work area in accordance with ANSI Z358.1. Maintain good industrial hygiene practices: do not eat, drink, smoke, or store food in areas where this material is handled, and wash hands thoroughly after handling. Decontaminate work surfaces after use.

Personal Protective Equipment

Respiratory Protection: Under normal laboratory handling of small quantities within a fume hood or ventilated enclosure, respiratory protection is generally not required. Where engineering controls are inadequate or where dust, mist, or aerosol may be generated (e.g., weighing of the dry powder outside of a containment hood), use a NIOSH-approved (42 CFR Part 84) particulate respirator equipped with N100/P100 filters, or a powered air-purifying

respirator (PAPR) with HEPA cartridges. Respirator selection and use must comply with the OSHA Respiratory Protection Standard (29 CFR 1910.134), including fit-testing, medical clearance, and a written respiratory protection program.

Hand Protection: Wear chemical-resistant, disposable gloves compliant with EN ISO 374 / ASTM D6978. Nitrile gloves (minimum thickness 0.11 mm) are recommended for routine handling; double-gloving is advised when handling the neat powder or concentrated stock solutions. Inspect gloves before use; remove and replace immediately if contamination, tearing, or degradation is observed. Wash hands with soap and water after glove removal. Glove breakthrough data specific to this peptide are not available; select gloves based on the solvent system used (e.g., aqueous buffer, DMSO, acetic acid) and follow the glove manufacturer's permeation data.

Eye / Face Protection: Wear tight-fitting chemical splash goggles meeting ANSI/ISEA Z87.1 (or EN 166 in the EU) when handling the solid or solutions. A full-face shield worn over goggles is recommended when there is risk of splash, when working with larger volumes, or during procedures that may generate aerosols (e.g., sonication, lyophilization, pressurized transfers). Do not wear contact lenses when handling this material.

Skin Protection: Wear a buttoned, long-sleeved laboratory coat or chemical-resistant lab gown, long pants, and closed-toe, chemical-resistant footwear. For handling of bulk quantities or where splash potential exists, use a chemical-resistant apron or impervious sleeves over the lab coat. Remove and launder contaminated clothing before reuse; do not take contaminated clothing home. Contaminated PPE should be decontaminated or disposed of as chemical waste in accordance with institutional and local regulations.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	White lyophilized powder
Odor	Odorless
Odor Threshold	Not available.
Boiling Point	Not determined
Melting Point	Not determined
Flash Point	Not determined
Auto-ignition Temperature	No data available.
Decomposition Temperature	No experimental data available.
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	Not determined
Partition Coefficient (log Kow)	No experimental data available.
Solubility	Soluble in water, soluble in DMSO
Stability in Solution	Subject to hydrolytic and oxidative degradation typical of the chemical class; store reconstituted solutions refrigerated or frozen, protect from light, and use within the stability window indicated on the Certificate of Analysis.
pH	Not determined
Molecular Weight	889 g/mol
Molecular Formula	C38H68N10O14

Section 10 — Stability and Reactivity

Chemical Stability: Stable under normal conditions of use, storage, and transport.

Conditions to Avoid: Excessive heat, open flames, sparks, incompatible materials.

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

Hazardous Decomposition Products: Upon combustion or decomposition may produce: carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x).

Hazardous Polymerization: Will not occur.

Section 11 — Toxicological Information

The toxicological properties of this substance have not been fully characterized. Where no authoritative study data was identified, endpoint classifications are based on a weight-of-evidence approach using read-across from the compound's chemical class and structural features, per GHS Rev.8 Chapter 1.3.2.4. "Not classified" entries below mean "not classified based on currently available data" — hazards cannot be excluded.

Acute Toxicity: Acute toxicity data for TB-500 (CAS 885340-08-9) are limited and the toxicological properties have not been fully characterized. No reliable LD₅₀ or LC₅₀ values from authoritative sources (ECHA, NIOSH, peer-reviewed literature) have been identified for the oral, dermal, or inhalation routes. On the basis of currently available data the substance is not classified for acute toxicity; however, hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Treat as potentially harmful by ingestion, skin contact, and inhalation of dusts/aerosols and handle in accordance with general laboratory practice for substances of unknown toxicity (OSHA 29 CFR 1910.1450, Appendix A).

Skin Corrosion / Irritation: No experimental skin corrosion/irritation data (e.g., OECD TG 404, 431, or 439) from authoritative sources have been identified for TB-500. Not classified for skin corrosion/irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Direct contact with the solid or with concentrated solutions may cause mechanical or mild chemical irritation; avoid skin contact.

Serious Eye Damage / Irritation: No experimental eye irritation/serious eye damage data (e.g., OECD TG 405, 437, 438, 491, or 492) from authoritative sources have been identified for TB-500. Not classified for serious eye damage/eye irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Dust or solutions may cause transient mechanical irritation on direct ocular contact.

Skin / Respiratory Sensitization: No experimental respiratory or skin sensitization data (e.g., OECD TG 406, 429, 442A-442E) from authoritative sources have been identified for TB-500. Not classified for respiratory or skin sensitization based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). As with other proteinaceous/oligo-amide substances of unknown allergenic potential, inhalation of dusts and repeated skin contact should be avoided.

Germ Cell Mutagenicity / Genotoxicity: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Carcinogenicity: TB-500 is not listed as a carcinogen by IARC, the U.S. National Toxicology Program (NTP) Report on Carcinogens, OSHA (29 CFR 1910.1003 and Subpart Z), the U.S. EPA IRIS database, or the ACGIH TLV Carcinogen list. No long-term carcinogenicity bioassays (e.g., OECD TG 451/453) have been identified in the peer-reviewed literature. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4).

Reproductive Toxicity: No experimental reproductive or developmental toxicity studies (e.g., OECD TG 414, 416, 421, 422, 443) from authoritative sources have been identified for TB-500. The substance is not listed under California Proposition 65 for reproductive toxicity. Not classified for reproductive toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Exposure of pregnant or nursing workers should be minimized as a precaution.

Specific Target Organ Toxicity (STOT): No specific target organ toxicity studies (single exposure - STOT-SE, OECD TG 420/423/425; or repeated exposure - STOT-RE, OECD TG 407/408/410/412/413) from authoritative sources have

been identified for TB-500. Not classified for STOT-SE or STOT-RE based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). The toxicological properties of this substance are not fully characterized; repeated or prolonged exposure should be minimized in accordance with OSHA 29 CFR 1910.1450 practices for substances of unknown toxicity.

Aspiration Hazard: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Derived No-Effect Level (DNEL): No data available — no substance-specific DNEL has been derived.

Predicted No-Effect Concentration (PNEC): No data available — no substance-specific PNEC has been derived.

Section 12 — Ecological Information

No authoritative substance-specific ecotoxicity study data was identified. In the absence of experimental data, adverse environmental effects cannot be fully excluded.

Ecotoxicity: Not classified — no authoritative ecotoxicity study data identified for this specific substance. In the absence of substance-specific data, hazards to the aquatic environment cannot be fully excluded.

Persistence and Degradability: No substance-specific experimental degradation studies (e.g., OECD 301 ready biodegradability) have been identified in authoritative sources for TB-500 (CAS 885340-08-9). As a small linear peptide composed exclusively of proteinogenic L-amino acid residues linked by amide bonds, hydrolytic and enzymatic cleavage in environmental compartments is plausible, but no quantitative half-life data from authoritative sources are available to support a definitive classification.

Bioaccumulative Potential: No substance-specific experimental bioconcentration factor (BCF) or octanol-water partition coefficient (log Kow) values have been identified for TB-500 (CAS 885340-08-9) in authoritative regulatory sources. The compound is a high-molecular-weight (889.0 g/mol), highly polar, water-soluble peptide containing multiple ionizable groups (lysine amines, glutamate/C-terminal carboxylates, amide functionalities), physicochemical features generally not associated with significant partitioning into lipid tissues; however, in the absence of authoritative experimental data a definitive bioaccumulation potential cannot be assigned.

Mobility in Soil: No substance-specific experimental data identified.

Other Adverse Effects: No other adverse environmental effects identified. The substance is not included on the Montreal Protocol list of ozone-depleting substances.

Section 13 — Disposal Considerations

Dispose of contents and container in accordance with all local, state, and federal regulations. Do not dispose of this material into sewers or waterways. Contact a licensed waste disposal company for disposal guidance.

US: Dispose in accordance with 40 CFR Parts 261-270 (RCRA). **EU:** Dispose according to Directive 2008/98/EC (Waste Framework Directive).

Section 14 — Transport Information

DOT (US)	Not regulated as dangerous goods under DOT (49 CFR) based on current classification.
IATA	Not regulated as dangerous goods under IATA Dangerous Goods Regulations based on current classification.
IMDG	

	Not regulated as dangerous goods or as a marine pollutant under the IMDG Code based on current classification.
UN Number	Not applicable.

Transport classifications above are based on the substance's intrinsic hazard classification; the shipper must independently verify the classification, packaging, labelling, and documentation requirements for their specific shipment configuration, quantity, and carrier (including airline policies) prior to dispatch.

Section 15 — Regulatory Information

United States

TSCA (Toxic Substances Control Act): May be eligible for exemption from TSCA inventory listing requirements under the R&D provisions of 40 CFR 720.36, depending on actual conditions of use. This substance is supplied solely for use in scientific research and development in small quantities; it is not intended for, and shall not be used for, any commercial manufacturing, processing, or distribution in commerce. The importer/end user is responsible for confirming that the R&D exemption criteria are met for their specific use. **OSHA HazCom 2012:** This SDS was prepared in accordance with 29 CFR 1910.1200 (HazCom 2012), aligned with the Globally Harmonized System (GHS) Rev. 8. **CERCLA / SARA Title III:** Not listed as a CERCLA Hazardous Substance (40 CFR 302.4); not subject to SARA 313 reporting based on available classification data. Users must independently verify applicability for their facility.

European Union

REACH (EC 1907/2006): Supplied solely for Scientific Research and Development (SR&D) use in quantities below 1 tonne per year per legal entity. Where applicable, this use may be exempt from REACH registration obligations under the scientific research and development provisions of REACH Article 3(23) and the conditions of Article 26(3); importers/users should independently verify the applicable exemption pathway for their specific use. If the substance is used as part of a formally notified Product and Process Oriented Research and Development (PPORD) programme, the separate notification procedure under REACH Article 9 (with a 5-year exemption renewable once) may apply instead. **CLP (EC 1272/2008):** Not classified under CLP based on available data; no harmonized classification entry identified in Annex VI of CLP or the ECHA Classification and Labelling (C&L) Inventory.

Canada

WHMIS 2015 / HPR: Not classified as a hazardous product under the Hazardous Products Act and Hazardous Products Regulations (SOR/2015-17) based on available data and weight-of-evidence assessment. Supplied for laboratory research use only. **DSL/NDSL:** Research-use exemption applies; substance is not intended for commercial import or manufacture in Canada.

Note: The regulatory statements above reflect the intended use of this substance for scientific research and development only and do not constitute a legal determination of regulatory status. If the substance is used outside the R&D exemption scope, users are solely responsible for independently verifying applicable regulatory obligations (TSCA, REACH, WHMIS, state, and local) for their specific use and jurisdiction prior to any such use.

Section 16 — Other Information

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Revision Date	2026-07-18
Version	1.0
Prepared By	

Prepared in accordance with GHS Rev.8 and OSHA HazCom 2012 (29 CFR 1910.1200). Independent review by a qualified chemical safety professional is recommended prior to use.

Revision History

Revision date: 2026-07-18

Version: 1.0

Change description: Initial issue. Document prepared in 16-section GHS Rev.8 / OSHA HazCom 2012 format.

Sources Used

- PubChem (U.S. National Library of Medicine / NCBI) — <https://pubchem.ncbi.nlm.nih.gov>
- Peer-reviewed chemistry and toxicology literature (class-based read-across and weight-of-evidence assessment per GHS Rev.8 Chapter 1.3.2.4)
- OSHA HazCom 2012 / 29 CFR 1910.1200 Appendix A–C; GHS Rev.8; OECD Test Guidelines

Key to Abbreviations

CAS = Chemical Abstracts Service; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; OSHA = U.S. Occupational Safety and Health Administration; HazCom = Hazard Communication Standard; REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals; CLP = Classification, Labelling and Packaging Regulation; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System; OEL = Occupational Exposure Limit; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; STOT = Specific Target Organ Toxicity; LD50 = Median Lethal Dose; LC50 = Median Lethal Concentration; PPE = Personal Protective Equipment; SCBA = Self-Contained Breathing Apparatus; R&D = Research and Development.

Disclaimer

DISCLAIMER: The information in this Safety Data Sheet is compiled from the authoritative sources cited above, supplemented by weight-of-evidence assessment based on the compound's chemical class and published literature. It is believed to be accurate as of the revision date but is provided "as is" without warranty of any kind, express or implied, including fitness for a particular purpose. The preparer of this document has not independently tested the substance described herein. Users bear sole responsibility for verifying all information, ensuring safe handling, and compliance with all applicable federal, state, provincial, and local regulations. This SDS is not a substitute for independent chemical safety assessment by a qualified professional. This product is intended for scientific research and development use only and is not for human consumption, drug, food, cosmetic, agricultural, or household use.

This SDS complies with GHS Revision 8 / UN GHS Rev.8 and OSHA HazCom 2012 (29 CFR 1910.1200).