B **Biomod Compounds LLC**
SAFETY DATA SHEET
GHS / OSHA HazCom 2012 Compliant

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GLOW (BPC-157 + GHK-Cu + TB-500)

CAS **Multi-component blend (see Section 3)** Formula **Mixture (see Section 3)**

Section 1 - Product and Company Identification

Product Name GLOW (BPC-157 + GHK-Cu + TB-500)

Synonyms GLOW research blend; BPC-157 + copper tripeptide-1 + thymosin beta-4

CAS Number Multi-component blend - see Section 3 for component CAS numbers

Molecular Formula Not applicable (mixture) - see Section 3

Chemical Name / Identity Multi-component research blend; see Section 3.

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 Biomod Compounds LLC

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Section 2 - Hazard Identification

Classification of the substance/mixture

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.

This product is a multi-component research blend. The hazard assessment applies to the blend as supplied and to each individual component identified in Section 3. No component is present at or above the GHS cut-off / concentration limits that would trigger mixture classification on the basis of currently available data.

Signal Word: None

GHS Pictograms: None required based on classification.

Hazard Statements

None. This product 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 blend and its components have not been fully characterized; handle as a potentially bioactive material of unknown toxicity.

Section 3 - Composition / Information on Ingredients

Multi-component product. Components:

Ingredient	CAS Number	Mol. Formula	Mol. Weight	Concentration
BPC-157	137525-51-0	$C_{62}H_{98}N_{16}O_{22}$	1419.5 g/mol	>98% research grade (per component)
GHK-Cu	89030-95-5	$C_{14}H_{22}CuN_6O_4$	401.9 g/mol	>98% research grade (per component)
Thymosin Beta-4	77591-33-4	$C_{212}H_{350}N_{56}O_{78}S$	4963.4 g/mol	>98% research grade (per component)

Component-to-component ratio of the blend is configured per product specification and is stated on the lot-specific Certificate of Analysis (CoA). Each component is supplied at research grade (>98% purity by HPLC).

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 (e.g., acetate, trifluoroacetate) 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. Remove contact lenses if present and easy to do. 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 (CO); carbon dioxide (CO2); nitrogen oxides (NOx); sulfur oxides (SOx); copper oxide fume / particulate 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. This product contains a copper(II)-peptide complex; dissolved copper can be toxic to aquatic organisms, so take particular care to prevent environmental release.

Containment and Cleanup

Sweep up and shovel, or collect with a HEPA-filtered vacuum. Keep in suitable, closed, labeled containers for disposal. Avoid raising dust. Clean contaminated surfaces thoroughly. Dispose of waste in accordance with local regulations (see Section 13).

Section 7 - Handling and Storage

Handling Precautions

Handle this multi-component peptide blend only in a controlled laboratory setting by trained personnel, following OSHA's Occupational Exposure to Hazardous Chemicals in Laboratories standard (29 CFR 1910.1450) and the Hazard Communication Standard (29 CFR 1910.1200). Because comprehensive toxicological data for these synthetic peptides are not available, treat the material as a potentially bioactive substance of unknown toxicity and apply the precautionary principle. Weigh and manipulate the dry, lyophilized powder inside a chemical fume hood, ventilated balance enclosure, or glove box to prevent generation and inhalation of airborne particulates; if local exhaust ventilation cannot be ensured, use a NIOSH-approved particulate respirator selected per 29 CFR 1910.134. Wear chemically resistant nitrile gloves, a buttoned lab coat, and ANSI Z87.1-compliant safety eyewear; add a face shield when handling open containers or during reconstitution. Avoid all skin and eye contact and do not inhale dusts, mists, or aerosols. Prohibit eating, drinking, smoking, and the application of cosmetics in handling areas, and wash hands and exposed skin thoroughly after handling. Keep containers tightly closed when not in use, and allow sealed vials removed from cold storage to equilibrate to room temperature before opening to minimize moisture uptake by the hygroscopic powder. Use the smallest practical quantities, work over spill trays or absorbent liners, ground containers when transferring fine powders, and maintain accessible eyewash and safety-shower facilities per ANSI Z358.1.

Storage Conditions

Store the lyophilized solid in its original tightly closed container, protected from light, moisture, and air, in a cool, dry, well-ventilated area dedicated to research chemicals. Consistent with general guidance for synthetic peptides, long-term storage of the dry powder is recommended at or below -20 C, with -80 C preferred for extended storage; desiccated conditions help limit hydrolytic and oxidative degradation. Allow containers to warm to ambient temperature before opening to prevent condensation. After reconstitution in an appropriate aqueous buffer, store solutions refrigerated at 2-8 C for short-term use or frozen in single-use aliquots to avoid repeated freeze-thaw cycles, which can promote aggregation, deamidation, and oxidation of peptides. Avoid prolonged exposure to alkaline conditions (pH > 8), elevated temperatures, and direct sunlight or UV light. Label all containers per 29 CFR 1910.1200(f), including date of receipt, date opened, and date of reconstitution. Do not return unused material to the original container. The copper(II)-peptide component (GHK-Cu) imparts a blue to blue-green color; protect from strong reducing agents and chelators that could liberate copper and alter the complex.

Incompatibilities

Keep away from strong oxidizing agents (e.g., peroxides, hypochlorites, nitric acid, permanganates, chromates), which can oxidize methionine, cysteine, tryptophan, and other susceptible residues. Avoid contact with strong acids and strong bases, which can catalyze hydrolysis of peptide (amide) bonds and side-chain deamidation; in particular, avoid prolonged exposure to pH > 8. Avoid reducing agents and proteolytic enzymes that could cleave or modify the peptide. Protect from moisture and humid air (the lyophilized powder is hygroscopic), from heat and ignition sources, and from light and UV radiation, all of which can accelerate degradation. Segregate during storage from oxidizers, acids, bases, and flammable solvents per OSHA chemical segregation practice under 29 CFR 1910.1200. For the copper(II)-peptide component, avoid strong chelating agents and reducing agents that could displace or reduce the bound copper. See Section 10 for additional stability and reactivity information.

Section 8 - Exposure Controls / Personal Protection

Exposure Limits

No regulatory occupational exposure limits (OEL) have been established by OSHA, ACGIH, NIOSH, or equivalent bodies for the components of this product. 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 with local exhaust ventilation sufficient to control airborne concentrations to the lowest level reasonably achievable. Perform weighing, transfer, and manipulation of the dry powder in a certified laboratory fume hood, ventilated balance enclosure, glove box, or Class II biological safety cabinet to minimize aerosol and dust generation. Apply the hierarchy of controls (substitution, engineering controls, administrative controls, PPE) per 29 CFR 1910.1450. Provide eyewash stations and emergency safety showers (ANSI Z358.1) in the work area.

Personal Protective Equipment

Respiratory Protection: Where engineering controls are adequate (fume hood, ventilated enclosure), routine respiratory protection is not required. If airborne dust, mist, or aerosol may be generated outside containment, or during weigh-out of dry powder, use a NIOSH-approved (42 CFR Part 84) N100/P100 particulate respirator. For higher-exposure or unknown airborne concentrations, use a PAPR with HEPA filters or a supplied-air respirator. Respirator use must comply with 29 CFR 1910.134 (fit-testing, medical evaluation, written program).

Hand Protection: Wear chemically resistant impermeable gloves (EN 374 / ASTM F739). Nitrile gloves (minimum 0.11 mm) are generally suitable for small quantities; double-glove when handling neat powder or concentrated solutions. Inspect before use and change if contamination or degradation is suspected; wash hands after removal.

Eye / Face Protection: Wear tightly fitting safety glasses with side shields (ANSI/ISEA Z87.1) as a minimum; wear chemical splash goggles where splashing of solutions is possible, and add a face shield when handling larger quantities or where aerosol/splash is likely. An emergency eyewash (ANSI Z358.1) must be readily accessible.

Skin Protection: Wear a long-sleeved laboratory coat or chemical-resistant gown, full-length trousers, and closed-toe chemical-resistant footwear. Add a chemical-resistant apron and sleeve covers for higher-splash tasks or bulk handling. Remove and segregate contaminated clothing immediately and launder separately from personal clothing.

Section 9 - Physical and Chemical Properties

Physical State	Solid (research-grade lyophilized powder)
Appearance	Blue to blue-green lyophilized powder (copper-peptide blend)
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 aqueous buffers
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	Mixture - see Section 3 for component molecular weights
Molecular Formula	Mixture - see Section 3

Section 10 - Stability and Reactivity

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

Conditions to Avoid: Excessive heat, open flames, sparks, moisture, UV light, and incompatible materials.

Incompatible Materials: Keep away from strong oxidizing agents (peroxides, hypochlorites, nitric acid, permanganates, chromates), which can oxidize methionine, cysteine, and tryptophan residues. Avoid strong acids and bases, which catalyze hydrolysis of peptide bonds and side-chain deamidation. Avoid reducing agents and proteolytic enzymes. Protect from moisture, heat, light, and UV radiation. The copper(II)-peptide component is incompatible with strong chelators and reducing agents that could displace or reduce bound copper.

Hazardous Decomposition Products: Upon combustion or decomposition may produce: carbon monoxide (CO); carbon dioxide (CO2); nitrogen oxides (NOx); sulfur oxides (SOx); copper oxide fume / particulate.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

The toxicological properties of this blend and its components 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 chemical class and structural features, per GHS Rev.8 Chapter 1.3.2.4. 'Not classified' below means 'not classified based on currently available data' - hazards cannot be excluded.

Acute Toxicity: No authoritative LD50/LC50 values (oral, dermal, or inhalation) for the components of this blend have been identified in NIOSH, ECHA, NTP, EPA, or PubChem registries. Not classified based on currently available data; hazards cannot be excluded. Handle as a substance of unknown acute toxicity and avoid all routes of exposure.

Skin Corrosion / Irritation: No validated OECD TG 404/431/439 data identified. Not classified based on currently available data; hazards cannot be excluded. Avoid skin contact.

Serious Eye Damage / Irritation: No validated OECD TG 405/437/492 data identified. Not classified based on currently available data; hazards cannot be excluded. As a fine powder, mechanical eye irritation is plausible; avoid eye contact.

Skin / Respiratory Sensitization: No OECD TG 406/429/442 data identified. As proteinaceous/polypeptide material, sensitization potential on inhalation of aerosols or repeated dermal contact cannot be excluded. Not classified based on currently available data; hazards cannot be excluded.

Germ Cell Mutagenicity / Genotoxicity: Not classified based on currently available data; hazards cannot be excluded (weight-of-evidence read-across; no authoritative substance-specific study data identified).

Carcinogenicity: the components of this blend is not listed by IARC, NTP (Report on Carcinogens, 15th Ed.), OSHA (29 CFR 1910.1003), the EPA IRIS database, or ACGIH. No long-term carcinogenicity bioassay has been published. The absence of listing reflects a lack of evaluation rather than evidence of no hazard. Not classified based on currently available data; hazards cannot be excluded.

Reproductive Toxicity: No OECD TG 414/416/421/422/443 reproductive or developmental toxicity studies for the components of this blend have been identified, and the material does not appear on the California Proposition 65 list. Not classified based on currently available data; hazards cannot be excluded. As a precaution, exposure should be avoided by individuals who are pregnant, nursing, or planning pregnancy.

Specific Target Organ Toxicity (STOT-SE / STOT-RE): No human or validated animal STOT-SE/RE data identified; no subacute (OECD TG 407), subchronic (TG 408), or chronic (TG 452) studies meeting GHS criteria have been published. Not classified based on currently available data; hazards cannot be excluded. Minimize repeated or prolonged exposure.

Aspiration Hazard: Not classified based on currently available data; hazards cannot be excluded.

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: No substance-specific experimental aquatic toxicity data (fish LC50, Daphnia EC50, algal ErC50) have been identified in PubChem, ECHA, or EPA ECOTOX. Not classified as hazardous to the aquatic environment under GHS based on a weight-of-evidence assessment in the absence of authoritative experimental data. Owing to high molecular weight and polar, ionizable polypeptide structure, significant bioavailability to aquatic organisms is not anticipated, but this has not been experimentally verified. NOTE: this product contains a copper(II)-peptide complex (GHK-Cu). Ionic copper released on dissociation can be acutely and chronically toxic to aquatic organisms (fish, invertebrates, algae); prevent release of the product and its solutions to surface water, groundwater, soil, and sewer/drain systems.

Persistence and Degradability: No substance-specific ready-biodegradability (OECD 301 series) data identified. The peptide backbone is composed of amide bonds generally susceptible to enzymatic and abiotic hydrolysis, but this read-across has not been confirmed experimentally. A definitive persistence classification cannot be assigned.

Bioaccumulative Potential: No measured log Kow, BCF, or BAF identified. As a hydrophilic, high-molecular-weight polypeptide, low bioaccumulation potential is anticipated but not verified by experimental data.

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

Other Adverse Effects: 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).

Copper-containing residues and solutions may be subject to additional metals-disposal requirements; segregate and characterize copper-bearing waste accordingly.

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 product'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: May be eligible for exemption from TSCA inventory listing under the R&D provisions of 40 CFR 720.36, depending on actual conditions of use. Supplied solely for scientific research and development in small quantities; not intended for commercial manufacturing, processing, or distribution in commerce. The importer/end user is responsible for confirming R&D exemption criteria. **OSHA HazCom 2012:** Prepared per 29 CFR 1910.1200, aligned with 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, may be exempt from REACH registration under Article 3(23) / Article 26(3). PPORD notification under Article 9 may apply instead. **CLP (EC 1272/2008):** Not classified based on available data; no harmonized classification entry identified in Annex VI or the ECHA C&L Inventory.

Canada

WHMIS 2015 / HPR: Not classified as a hazardous product under the Hazardous Products Act and 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; not intended for commercial import or manufacture in Canada.

Note: The regulatory statements above reflect the intended use of this product for scientific research and development only and do not constitute a legal determination of regulatory status. If 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	2026-06-10
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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: 2026-06-10; 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; OSHA = Occupational Safety and Health Administration; HazCom = Hazard Communication Standard; REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals; CLP = Classification, Labelling and Packaging; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System; OEL = Occupational 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 has not independently tested the material 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).