

Technical Data Sheet

Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine Cosmetic Suspension | 0.2% PD-5T in Glycerin Suspension with Linatural MBS-4

Product Code FL-PD5T-GLYC-MBS4-STD-001-TDS

Current published version — subject to change.

This document is the current web-published revision. Specifications, classifications, and recommendations may be revised without notice as additional batch and analytical data become available. **For any shipment, the authoritative document is the revision packaged with your batch — refer to that version for the values that apply to the lot you receive.**

Product Overview

Product Name	Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine Cosmetic Suspension 0.2% PD-5T in Glycerin Suspension with Linatural MBS-4
Product Code / SKU	FL-PD5T-GLYC-MBS4-STD-001-TDS
Document Revision	0.1
Effective Date	May 20, 2026
Manufacturer	Formulate Labs, Inc. 1645 Headland Dr. Fenton, MO 63026
Quality Contact	quality@formulate.co <i>Lot issues, complaints, contamination concerns, out-of-spec materials, COA discrepancies.</i>
Regulatory Contact	regulatory@formulate.co <i>INCI, allergens, IFRA, Prop 65, vegan/natural claims, compliance documents, formulation-use questions.</i>
Adverse Effects Reporting	safety@formulatelabs.ai
Emergency Phone Number	888-999-2260

This material is Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine (PD-5T) — SYN-TACKS / SYN-TC DEJ-anchoring lipopeptide at 0.2% dosed into a 35% Glycerin / Water carrier preserved with Linatural MBS-4 at 2.00%. It is designed for cosmetic formulators building DEJ redensifying and anti-sagging formats who want a selectable preservation system to match the ingredient deck of the finished product.

Recommended Cosmetic INCI Declaration

Water, Glycerin, Propanediol, Ethylhexylglycerin, Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine, Benzoic Acid

INCI ordering follows descending weight per FDA / EU cosmetic labeling convention; ingredients below 1% may appear in any order in the final label per local regulations. The process-integrated preservation system is disclosed in the SDS for industrial safety and formulation review. Finished-product manufacturers and brand owners remain responsible for final ingredient labeling determinations in each sale jurisdiction.

Composition / Information on Ingredients

Ingredient / Chemical Name	CAS #	Function	% by Weight
Glycerin	56-81-5	Humectant carrier; cosmetic raw material	35.000%
Propanediol	504-63-2	Process-integrated preservation solvent / humectant component of Linatural MBS-4	1.700%
Ethylhexylglycerin	70445-33-9	Process-integrated preservation booster / skin-conditioning component of Linatural MBS-4	0.200%

Ingredient / Chemical Name	CAS #	Function	% by Weight
Benzoic Acid	65-85-0	Process-integrated preservative acid component of Linatural MBS-4	0.100%
Water	7732-18-5	Solvent (balance)	62.800%
Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine	959610-54-9	Active biomimetic acetylated peptide; cosmetic raw material	0.200%

Preservation System

Component	CAS #	% of Blend	% in Finished Suspension
Propanediol	504-63-2	85.0%	1.700%
Ethylhexylglycerin	70445-33-9	10.0%	0.200%
Benzoic Acid	65-85-0	5.0%	0.100%

Linatural MBS-4 (supplied by Lincoln Manufacturing) is used at 2.00%. Plant-derived preservation system from Lincoln Manufacturing. Propanediol-based, naturally-acceptable.

Key Technical Attributes

Format	Aqueous cosmetic raw material
Appearance	Clear, colorless aqueous solution. Lot-to-lot color variation is expected to be minimal at this peptide loading.
Odor	Mild characteristic; no added fragrance
Preservation	Linatural MBS-4 (supplied by Lincoln Manufacturing) is used at 2.00%. Plant-derived preservation system from Lincoln Manufacturing. Propanediol-based, naturally-acceptable.
Target pH	4.5-5.1 at 25 °C (anticipated)
Solubility / Compatibility	Water-miscible / water-compatible
Recommended Use Level	Use at typically 1% of the suspension into the finished formula for an in-formula peptide level of approximately 0.002%. Use levels are guidance only; finished-formula safety, preservation efficacy, and stability remain the responsibility of the brand.
Processing	Add during cool-down at <= 40 °C, ideally as a final aqueous addition. Use low shear once incorporated. Maintain finished-formula pH between approximately 4.0 and 6.5 (per supplier guidance for this lipopeptide); avoid strong oxidisers and prolonged direct-light exposure.
Storage	Store tightly closed in opaque containers protected from light (Palmitoyl Dipeptide-5 Diaminobutyroyl Hydroxythreonine is light-sensitive per supplier guidance). Refrigerate (2-8 °C) for maximum shelf life. Minimize headspace once a container is opened.
Shelf Life	Anticipated unopened, refrigerated: 18-24 months. Anticipated unopened, controlled room temperature: 12-18 months. Open or in-use containers require site-specific microbial controls. Ranges represent the current published target and may be refined by future stability data.

Formulation Guidance

- Best suited to DEJ-firming leave-on skincare and follicle-fortification scalp serums. Mechanism is Laminin V / Collagen IV/VII anchoring — not neuromodulation or brightening.
- Palmitoylated lipopeptide supplied in glycerin / water; plan emulsion or serum chassis for SC penetration.
- Add during final cool-down below 40 °C with low shear; sustained heat hydrolyzes the peptide and reduces in-formula activity.
- Avoid contact with strong oxidisers, prolonged exposure to direct light, and sustained exposure to pH > 7.0.
- Final formulations must be independently stability tested, micro tested, and challenge tested. Preservation efficacy in the finished product is the brand's responsibility regardless of the preservation system in this raw material.

Marketing / Claims Guidance

Appropriate cosmetic-positioning language may include DEJ firming, redensifying, anti-sagging, supports a firmer-looking jawline, supports the appearance of lifted skin, follicle fortification, helps maintain the look of anchored hair, and helps reduce the appearance of shedding (per DSM SYN-TACKS supplier data and Bataille et al., 2020). **Avoid DEJ / basement-membrane drug language** ('rebuilds basement membrane', 'treats telogen effluvium', 'medical anti-sagging'). **Avoid Matrixyl synthe'6 / Thymulen 4 positioning** — trade reference is SYN-TACKS / SYN-TC (DSM-Firmenich). **Avoid hair-loss drug language** ('treats hair loss', 'regrows hair', 'treats alopecia'). Structure-function language must be qualified appropriately and must not imply medical benefit.

Regulatory Notes

- **Current published version — subject to change.** This document represents the current web revision. Specifications may be revised as additional batch and analytical data become available; the document packaged with each shipment is the authoritative version for the specific lot received.
- Recommended cosmetic INCI declaration is the descending-weight string listed above.
- SDS composition disclosure is provided for industrial safety, formulation review, and regional compliance assessment.
- No fragrance is intentionally added.
- **Not certified organic, kosher, halal, COSMOS, vegan, or non-GMO unless separately accompanied by a third-party certificate.** Suitability assessments based on the ingredient deck and supplier information are not equivalent to certifications.
- Component supplier data has been used in good faith; supplier-issued documents take precedence over individual statements above where a discrepancy exists.
- Finished-product manufacturers remain responsible for final product safety, claims, label compliance, regional restrictions, and preservative efficacy.