

Actives

PRODUCT DOSSIER

HYASIL™

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VERSION 1.01

BEAUTICS
LABORATORIES

PRODUCT DATA SHEET (PDS)

HYASIL™ System

A bi-functional dermal architecture complex

1. What Is HYASIL™?

HYASIL™ is a bi-functional dermal architecture complex composed of:

- Sodium Hyaluronate
- Sodium Hyaluronate Cross polymer
- Methylsilanetriol

Engineered to support extracellular matrix (ECM) integrity and scalp structural environment, particularly in hair and regenerative applications.

2. Active Components & Mechanisms

2.1 Sodium Hyaluronate (HA)

- Immediate hydration reservoir
- Improves tissue plasticity and elasticity
- Facilitates nutrient diffusion within the scalp microenvironment

2.2 Sodium Hyaluronate Cross polymer

- Forms a 3D viscoelastic network
- Provides:
 - Long-lasting hydration (slow-release HA)
 - Surface + intercellular film formation
- Enhances residence time on scalp/skin

2.3 Methylsilanetriol (Organic Silicon)

- Key role in ECM structural reinforcement
- Supports:
 - Collagen synthesis
 - Elastin fiber organization
 - Proteoglycan stabilization
- Critical for dermal anchoring and follicular support

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3. Mechanism of Action

3.1 ECM Reconstruction Support

- Methylsilanetriol stimulates fibroblast activity
- Enhances collagen + elastin network integrity
- Improves scalp firmness and follicular anchorage

3.2 Hydration + Structural Matrix Formation

- HA + Cross polymer create a dual-phase hydration system:
 - Immediate hydration (free HA)
 - Sustained release (crosslinked HA)

3.3 Scalp Microenvironment Optimization

- Maintains:
 - Optimal hydration gradient
 - Improved cellular communication
 - Better active ingredient diffusion

4. Recommended Use Levels

INGREDIENT	CONCENTRATION
HYASIL™	0.5-1.5 %

5. Pharmaceutical Characterization

PARAMETER	SPECIFICATION
ACTIVE COMPOSITION	Sodium Hyaluronate Sodium Hyaluronate Cross polymer Methylsilanetriol
SYSTEM TYPE	ECM + hydration + structural support
SOLUBILITY	Water-soluble
STABILITY	pH 5.0 – 7.0 (optimal)
MOLECULAR TARGETS	ECM

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6. Role in Cosmetic Formulations

Key Benefits

- Restores hydration gradient
- Enhances growth factor diffusion
- Reinforces follicle anchoring & ECM integrity

7. Formulation Considerations

7.1 Handling

- Pre-disperse Sodium Hyaluronate Cross-polymer to avoid clumping
- Add Methylsilanetriol in cool-down phase (<40°C)

7.2 Compatibility

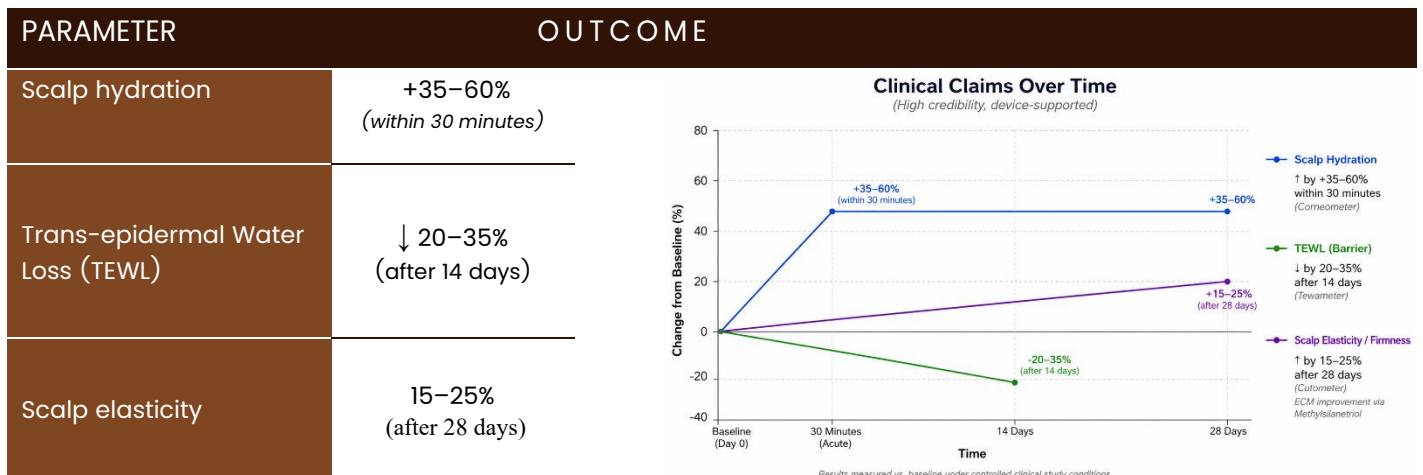
- Works synergistically with:
 - Humectants
 - PDRN
 - Peptides (e.g., copper peptides)

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8. Application Formats

APPLICATION / USE CASE	HYASIL™ BLEND (%)	PRIMARY BENEFIT
Anti-hair loss serum / ampoule	0.40–1.00%	Reinforces follicular anchoring and supports scalp density environment
Sterile ampoule / soothing gel	0.45–0.95%	Accelerates barrier recovery and supports ECM restoration post-procedure
Dry scalp serum / mist	0.40–0.85%	Creates long-lasting hydration reservoir and improves scalp comfort
Oily scalp tonic	0.40–0.80%	Balances hydration while helping regulate excess sebum
Root thickening spray	0.40–0.80%	Enhances root plumping effect and improves fiber appearance

10. Clinical Performance (Trichonomics Aligned)



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