



SKIN CARE,
THE WAY **NATURE INTENDED™**

Nourishing Hair Serum

Formula Index: **SM2402-17**

#	Phase	Trade Name	INCI Name	Function	% (w/w)
1	A	Deionized water	Water / Aqua	Diluent	q.s.
2	A	Sodium EDTA ⁺	Sodium EDTA	Chelating agent	0.05
3	A	Niacinamide	Niacinamide	Active. Hydration	2.00
4	A	Solagum™ AX	Acacia Senegal Gum, Xanthan Gum	Rheology Modifier	0.50
5	A	Glycerin ⁺	Glycerin	Humectant	5.00
6	A	Sodium Hyaluronate MMW	Sodium Hyaluronate	Active. Hydration	0.10
7	A	Sepimax™ Zen	Polyacrylate Crosspolymer-6	Rheology Modifier	0.50
8	B	Fluidifeel Easy	Lauryl Glucoside (and) Myristyl Glucoside (and) Polyglyceryl-6 Laurate	Emulsifier	3.00
9	B	ESSACHEM® PVL	Plukenetia Volubilis Octyldodecyl Esters	Emollient. Natural Sensory Complex™	3.00
10	B	Siclone SR-5	Isohexadecane, C13-15 Alkane	Emollient. Silicone alternative	3.00
11	B	Zenigloss® Q	Polyquaternium-57	Hair Shininess and Glow	0.80
12	C	Zenester® ME	Bis-Peg-10 Dimethicone/Dimer Dilinoleate Copolymer	Silicone. Cuticle sealing	2.00
13	C	Kem EHG	Phenoxyethanol, Ethylhexylglycerin	Preservative*	0.80
14	C	Fragrance	Fragrance	Fragrance**	q.s.
15	D	Galacid Excel 88	Lactic Acid	pH- adjuster and Seals Split Ends	q.s.

* The specific preservative to be used by the customer in any development of this formulation should be in-line with local regulations and/or the customer's own policies

** The use of and levels of a fragrance and/or colourants are purely optional and at the customer's discretion



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Procedure

This Procedure is carried out at Room Temperature.

Aqueous Phase (A):

- Into the main vessel add **#1**. Setup mixer with dispersion blade and set to moderate speed (~400 rpm), then add ingredients (**#2 through #4**), mix until completely dissolved.
- In a separate smaller vessel slurry **#6** into **#5**, then add to main vessel while mixing.
- Discontinue mixing, and sprinkle **#7** into the batch and let hydrate for 15 minutes.
- Return to mixing, this time increase to high (~600 rpm) and continue mixing for 15 minutes or until a homogeneous gel is formed.

Oil Phase (B):

- In a separate vessel with the mixer equipped with a dispersion blade, add all the components of **Phase-B (#8 through #11)** one at a time under continuous mixing (~400 rpm).
- Once all the ingredients have been added continue to mix until homogeneous.

Completion:

- Under continuous mixing at high shear (~800 rpm) add **Phase-B** to the main vessel containing **Phase-A** and continue mixing for 5 minutes.
- Now, homogenize for 5 minutes at 1,800 rpm.
- Return to regular mixing at moderate speed (~400 rpm) and add all the ingredients listed under **Phase-C** one at a time.
- Adjust final pH with **#15**.

Target Characterization		References
Appearance @ 25 °C:	Fluid lotion	TC USA Inc.: (#9, #11 & #12)
Colour:	Off-white	Akema Fine Chemical: (#13) Seppic: (#4, #7, & #8)
pH (ASIS) @ 25 °C:	4.5 to 5.0	Presperse: (#3 & #10)
Total Water Content (%):	78 ± 1	Galactic: (#15)

Formula Key Attributes

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|---|----------------------------------|---|--------------------------------|
| ✓ | Natural Antioxidants & Vitamin A | ✓ | Colour Retention & Hair Repair |
| ✓ | None-buildup Conditioning, | ✓ | Reduced Hair Falling |