



IOI OLEOCHEMICAL

PERSONAL CARE

SOFTISAN[®] conditionHAIR



100% natural-based
Hair conditioner
Skin moisturizer



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(INCI: PCA Glyceryl Oleate) is a plant-based, vegan hair conditioner and skin moisturizer that is 100% natural-based and thus suitable for natural cosmetics. In hair care products SOFTISAN[®] conditionHAIR leads to better combability and works in combination with lipophilic materials to improve the combability of hair, just like standard cationics.

In skin care applications SOFTISAN[®] has a positive influence on the humidity level of the skin through pyrrolidone carboxylic acid, which has a natural moisturizing effect. Besides, SOFTISAN[®] protects the skin barrier by reducing transepidermal water loss.

DATASHEET

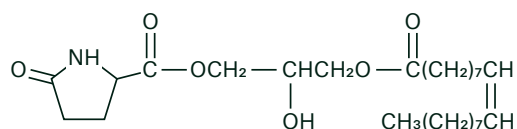
FORMULATOR BENEFITS:

- Recommended dosage: 0.5-2%
- Applicable for hot and cold processes
- Recommended pH level: 4.0-7.0
 - pH <5.5 for optimum efficacy in rinse-off products
 - pH >5.5 for good affinity to hair and skin through hydrophobic interaction

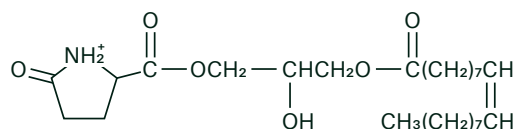
CONSUMER BENEFITS:

- Suitable for natural cosmetics
- Improves combability of hair
- Enhances skin health and strengthens the skin barrier

CHEMICAL STRUCTURE



at pH >5.5

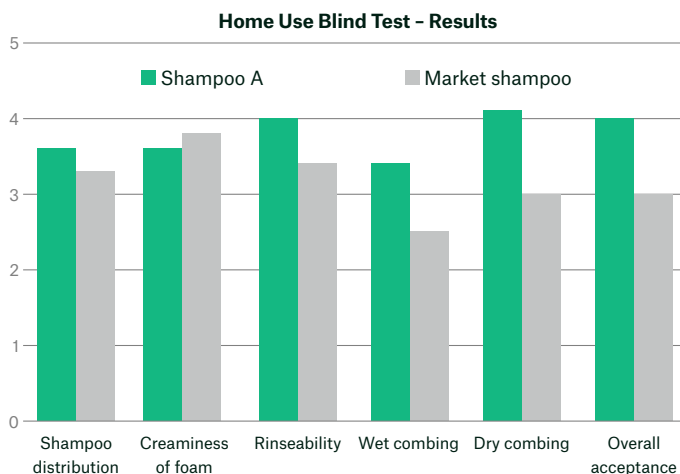


at pH <5.5

At physiological pH (5.5), this amino acid derivative provides a positive charge, hence shows high substantivity on skin and hair. At other pH levels, it shows good affinity to hair due to hydrophobic interaction.

HAIR CARE: Consumer evaluation on slightly damaged hair

Consumers with slightly damaged hair (n=8) compared two shampoos in a home-in-use test. A formulation containing 0.7% SOFTISAN® conditionHAIR and a natural market shampoo were evaluated.



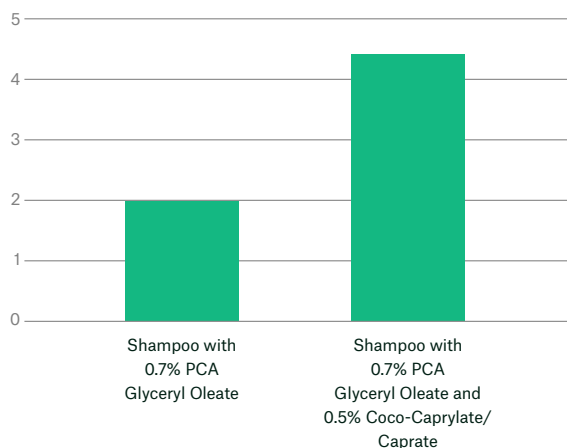
TRADENAME	INCI	Shampoo A %
Keltrol® SFT-Gel 1,2%	Xanthan Gum	62.8
Glycerin	Glycerin	5.0
Euxyl® K 700	Phenoxyethanol, Benzyl Alcohol, Potassium Sorbate, Aqua, Tocopherol	1.0
SOFTISAN® conditionHAIR	PCA Glyceryl Oleate	0.7
EcoSense™ 1200	Lauryl Glucoside	4.0
EcoSense™ 919	Coco-Glucoside	10.0
Sulfetal LS-U	Sodium Lauryl Sulphate	13.5
Ethanol	Ethanol	3.0
Citric acid	Citric Acid	q.s.
Aqua dem.	Aqua	Ad. 100.0

Shampoo A containing SOFTISAN® conditionHAIR bettered the market shampoo in the following performance categories:

- Better rinseability
- Better wet combing
- Better dry combing
- Higher overall acceptance

HAIR CARE: deposition of hydrophobic materials

The wet combing qualities of standardised hair tresses – bleached for 3h and treated with two shampoos – were compared. Five panellists had to choose the shampoo with the best combability. Both formulations had the same shampoo base but differed in their concentration of MIGLYOL® Coco 810 (INCI: Coco-Caprylate/Caprata)



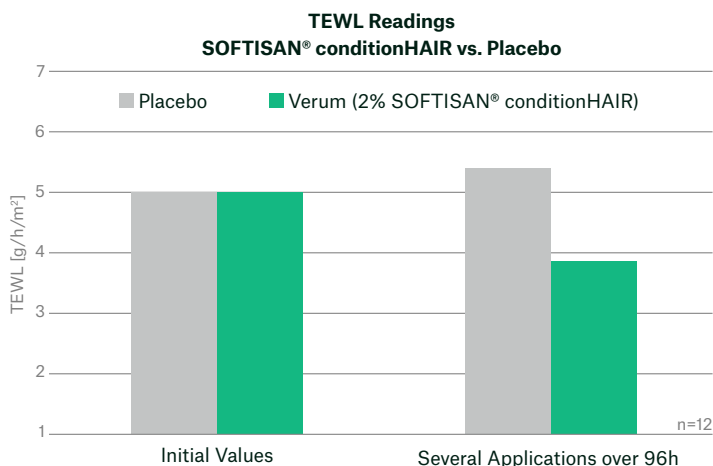
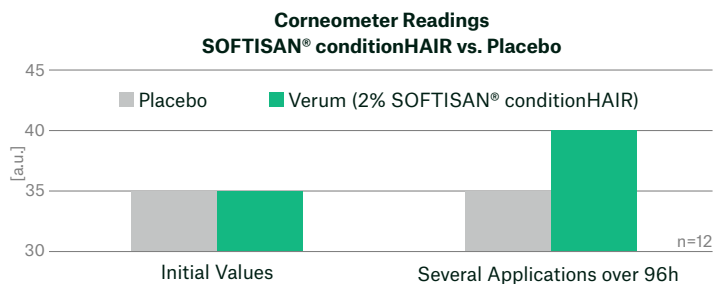
For 100% of the panelists hair tresses treated with a shampoo containing a combination PCA Glyceryl Oleate and Coco-Caprylate/Caprata led to improved wet combing than hair tresses treated with a shampoo containing SOFTISAN® conditionHAIR alone. This demonstrates the ability of SOFTISAN® conditionHAIR to deposit hydrophobic materials like MIGLYOL® Coco 810 via coacervation.

SKIN CARE: corneometer and tewameter studies

Corneometer and tewameter studies were conducted to show the positive influence of SOFTISAN® conditionHAIR on skin hydration and transepidermal water loss. 12 probands applied two creams, a placebo and a verum, on their left or right forearm twice a day for several days.

Basic test emulsion used for corneometer and tewameter studies:

TRADE NAME	INCI	Placebo [%]	Verum [%]
IMWITOR® 372 P	Glyceryl Stearate Citrate	3.0	3.0
IMWITOR® 900 K	Glyceryl Stearate	2.0	2.0
Nafol® 1618	Cetearyl Alcohol	1.0	1.0
WITARIX® MCT 60/40	Caprylic/Capric Triglyceride	20.0	20.0
Keltrol® CG-T	Xanthan Gum	0.3	0.3
SOFTISAN® conditionHAIR	PCA Glyceryl Oleate	0.0	2.0
Euxyl® PE 9010	Phenoxyethanol (and) Ethylhexylglycerin	0.7	0.7
Water	Aqua	73.0	71.0



SOFTISAN® conditionHAIR leads to the following consumer-perceivable benefits:

- Hydrates the stratum corneum
- Enhances skin health
- Reduces transepidermal water loss
- Improves the skin barrier

FORMULATIONS:

Balm-to-Oil Moisturizing Cleanser (No.: 811)

PHASE	TRADE NAME	INCI	%
A	WITARIX® MCT C8	Tricaprylin	12.0
A	SOFTISAN® conditionHAIR	PCA Glyceryl Oleate	0.5
A	MIGLYOL® T-C7	Triheptanoin	12.0
A	MIGLYOL® 8810	Butylene Glycol Dicaprylate/Dicaprate	10.0
A	SOFTIGEN® PURA	Caprylic/Capric Triglyceride (and) Hydrogenated Rapeseed Oil	10.0
A	IMWITOR® 600	Polyglyceryl-3 Polyricinoleate	2.4
A	Kahlwax 8104 Beeswax White	Cera Alba	14.0
A	Kahlwax 6692 Rose Wax	Rosa Damascena Flower Cera	2.0
A	Plantacare® 2000 UP	Decyl Glucoside	20.0
A	Sunflower oil	Helianthus Annuus (sunflower) Seed Oil	16.6
A	Tocopherol	Tocopherol	0.5

Preparation:

1. Heat phase A to 75°C.
2. Cool down to 45°C while stirring.

Suppliers:

IOI Oleo GmbH: IMWITOR®, MIGLYOL®, SOFTISAN®, SOFTIGEN®, WITARIX®

KahlWax: Beeswax, Rose Wax

BASF: Plantacare®

Hair & Scalp Hydrating Mask (No.: 814)

PHASE	TRADE NAME	INCI	%
A	Sucrathix® VX	Microcrystalline Cellulose (and) Cellulose Gum (and) Xanthan Gum	1.3
A	Glycerin	Glycerin	10.0
A	Aqua dem.	Aqua	Ad. 100.0
B	NAFOL® 1618 H	Cetearyl Alcohol	4.0
B	NACOL® 22-98	Behenyl Alcohol	1.0
B	SOFTISAN® 649	Bis-Diglyceryl Polyacyladipate-2	2.4
B	IMWITOR® 372 P	Glyceryl Stearate Citrate	4.0
B	WITARIX® MCT C8 pure coconut	Tricaprylin	5.0
B	SOFTISAN® conditionHAIR	PCA Glyceryl Oleate	6.0
B	MIGLYOL® 8810	Butylene Glycol Dicaprylate/Dicaprate	5.0
B	Shea butter	Butyrospermum Parkii (Shea) Butter	1.0
C	Euxyl® PE 9010	Phenoxyethanol (and) Ethylhexylglycerin	1.0
C	Fragrance	Parfum (EU)/ Fragrance (US)	q.s.

Preparation:

1. Take the phase A water and glycerine. Disperse Sucrathix VX while stirring and heat to 80°C.
2. Weigh all ingredients of phase B and heat to 80°C.
3. Add phase B to phase A under constant stirring and stir till the mixture reaches 40°C.
4. Add phase C to the above mixture. Homogenise the product at 12,000 rpm for 3 minutes.
5. Check for pH. Adjust pH to between 4 and 4.5.

Suppliers:

IOI Oleo GmbH: IMWITOR®, MIGLYOL®, SOFTISAN®

Alchemy Ingredients: Sucrathix® VX

Sasol: NAFOL®, NACOL®

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