



NANO LISS

HAIR CARE

Actives: Onion extract, urea and glycerin

Characteristics

Aspect:

Colorless to slightly yellowish clear liquid.

Use concentration:

0,5 a 25%.

Stability pH:

2,0 to 7,0.

Benefits

- Shielding action
- Capillary mass increase
- Disciplining effect on hair strands
- Coloring protection
- Temporary straightening

Application

Shampoos, conditioners, hair masks, cationic gels and aqueous solutions. The formulations must be free of Ethanol and EDTA or must contain a maximum of 0.05% of this chelator.



Nano Liss is a blend of actives encapsulated in biopolymer particles with particle diameter greater than 200 nm. The encapsulation of the blend through the technology developed by Nanovetores allows the stabilization of sensitive and complex components to be formulated. The active ingredient consists of

cationic particles with high capillary affinity containing onion extract, urea and glycerin. Due to its natural characteristics and the lack of chemical aggression, the Nano Liss can be used daily, providing in continuous application a healthy, shiny and efficient straightening of the hair strands.

Description

Nano Liss is a blend composed of onion extract, urea and glycerin, consisting of cationic particles, that is, positively charged particles, which have high capillary affinity due to the negative charge of the hair strands.

The hair is basically composed of keratin, a protein characterized by its high content of sulfur derived from cysteine. This protein forms a cross-linked network through disulfide bridges, which gives the hair some mechanical and chemical resistance. Thus, many of the hair's morphological structures vary their physical and chemical characteristics because of the content of sulfur bridges⁽¹⁾.

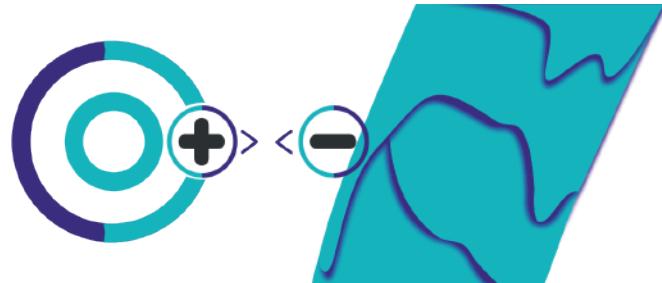


Figure 1. Illustration of the surface charge control of the capsules. Active ingredients for hair products have the capsules with positive surface charge to be attracted by the hair's natural negative charge.



Actives' Blend

The onion extract is rich in sulfur, which acts on the temporary hair relaxation.

The urea is an organic compound synthesized from ammonia and carbon dioxide. It is used in dermocosmetics to promote hydration and has an effect in hair growth⁽²⁾.

Glycerin is a tri-alcohol that can be found in vegetable oils of coconut, palm, soy and olive. The applications and benefits of glycerin are focused on hydration and emollience, lubricating properties⁽³⁾.

Nano Liss, for being constitute of nanoparticles, has the ability to penetrate the capillary cortex (local where the keratin disulfide bonds are found) where the intense heating promoted by the use of hair straighteners (flat iron) or hair dryer promotes degradation of ammonia urea, temporarily breaking the sulfur bridges. Such a reaction in the presence of Nano Liss offers the possibility of reconnection from the sulfur atoms present in the onion extract, promoting in-line modeling of the hair strands. Through thermo-activation, the glycerin in association with the capsule material consolidates and reinforces the strands modeling by forming a continuous film, able to provide mechanical alignment, intense shine, repair and silkiness. These effects can resist 4 to 5 washes. By the natural characteristic of Nano Liss components and by the non-existent chemical aggression, the active Nano Liss can be used daily providing, in continuous applications, a healthy, shiny and efficient straightening.

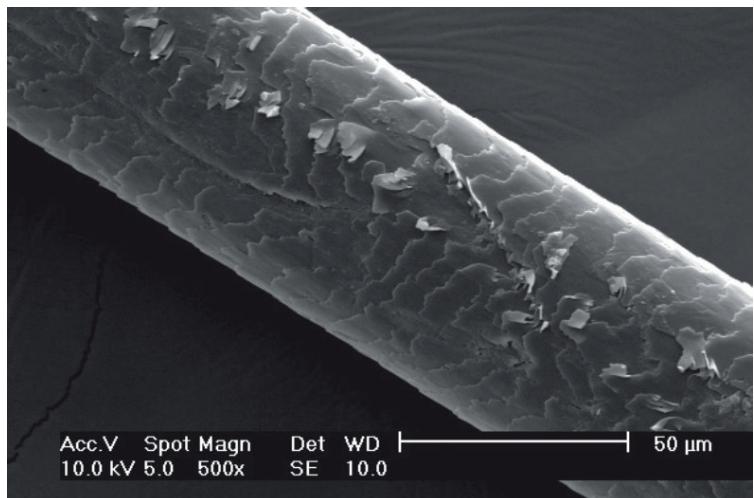


Efficacy Test

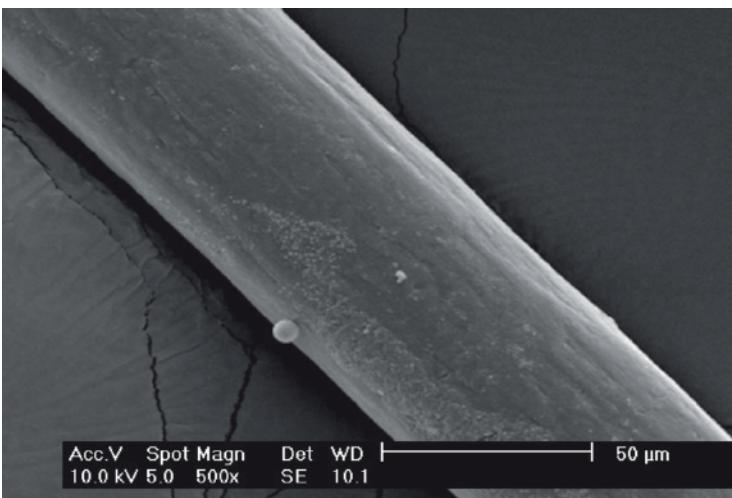
Test 1: Efficacy screening for Hair Repair

Evaluated Product: Spray Nano Liss 25%, leave-in for daily use.

BEFORE



AFTER



Conclusion

The product repaired the capillary surface in just 1 application.

Formula Suggestion

Spray Nano Liss 25%

Indicated for professional and home care, Spray Nano Liss 25% is a leave-in for daily hair treatment that reduces volume and frizz, shapes hair strands, promotes temporary straightening and deep hydration with durability up to 5 hair washes. The product's

thermal activation is able to rejuvenate the hair strands, returning the shiny and healthy texture of the hair. When not thermo-activated, this versatile product has the property to define curls in wavy and curly hair.

PHASE I %

Preservative.....	0,05
Water qs.....	100,00

PHASE II %

DC 8170.....	2,00
DC 2220.....	2,00
Fragrance.....	1,00

PHASE III %

Nano Liss.....	25
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Technique: Homogenize

Technique: Homogenize

Technique: Homogenize

Mode of Use

1. Wash your hair with shampoo pH 7,0;
2. Rinse with water;
3. Still with damp hair, spray the Nano Liss Spray (do not rinse). As it is thermo-activated, the use of a hair dryer and/or hair straightener around 180 °C is indicated.

Regulatory Information

Nome INCI	Número Cas
AQUA	7732-18-5
ALLIUM CEPA EXTRACT	8054-39-5
GLYCERIN	56-81-5
UREA	57-13-6
POLYSORBATE 80	9005-65-6
HYDROXYPROPYL GUAR	68442-94-4
PHENOXYETHANOL	122-99-6
CAPRYLYL GLYCOL	1117-86-8

Physical - Chemical Information

Aspect	Clear liquid
Color	Colorless slightly yellowish
Odor	Characteristic
pH	3,0 to 8,0
Dispersibility	Dispersion of encapsulated actives in water
Relative density	0,9 to 1,1 g/mL
Characterization	Blend

*As it contains natural active ingredients, the product may undergo changes in odor and color.

Storage

Keep in a well-ventilated place, away from light and heat.

Incompatibility

The formulations must be free of Ethanol and EDTA or must contain a maximum of 0.05% of this chelator.



Marketing Appeals

- Substantivity to the hair strands;
- Capillary realignment;
- Strands Shielding;
- Frizz reduction;
- Deep repair;
- Coloring protection;
- Thermo-Activation: Progressive straightening;
- Non-activated: Defines curls in wavy and curly hair.



Our production process is based on Green Chemistry, being water-based and free of organic solvents, totally sustainable. We do not generate waste that could be harmful to users or the environment



We do not test on animals. All tests are conducted in trustworthy laboratories with human volunteers.



Essential oils, Vitamins, Acids and Natural Extracts are highly oxidative substances that degrade quickly and react constantly with the medium and other cosmetic compounds (light, oxygen, packaging, preservatives, fragrances, surfactants, etc.). By encapsulating it, we guarantee the stability of the active ingredients and protect them from potential reactions with the formulation or the environment.

Bibliographic References

1. WAGNER, R.C.C. **A estrutura da medula e sua influência nas propriedades mecânicas e de cor do cabelo.** 2006. 95 f. Tese (Doutorado em Química) – Instituto de Química, Universidade Estadual de Campinas, Campinas. 2006.
2. RAMOS-E-SILVA, M.; CASTRO, M.C.R.; CARNEIRO-JUNIOR, L.V. **Hair Removal.** Clinics in Dermatology, v. 19, p. 437-444, 2001.
3. ARRUDA, P.V.; RODRIGUES, R.C.L.B.; FELIPE, M.G.A. **Glicerol: um subproduto com grande capacidade industrial e metabólica.** Revista Analytica, n. 26, p. 56-62

Nanovetores Encapsulation Technology



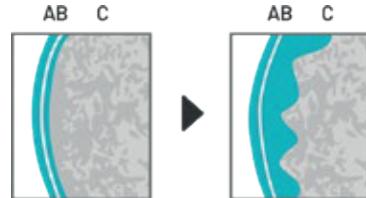
Active Ingredient Protection against oxidation resulted from interaction with external environment and other components of the cosmetic formulation.



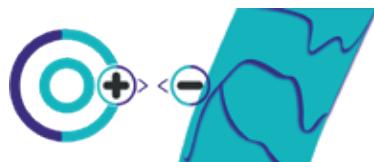
Monodispersity, that ensures control of the particle size, providing adequate permeation to its proposed action.



Secure particles larger than 200nm, biocompatible and biodegradable.



Greater Permeation on the contact surface due to the small size of the capsule.



Surface Charge Control of the particle, promoting greater affinity with the contact surface.



Water Base. Active ingredients are manufactured without the use of organic solvents, ensuring safety for users and the environment.

Use Encapsulated Active Ingredients and Ensure:

- Stability Improvement
- Increased compatibility in the formulation
- Occlusion of odors
- Increased skin permeation
- Reduced dose
- Use of sensitive active ingredients (without refrigeration)
- Increased Solubility
- Prolonged release
- Increased effectiveness



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