

# nano repair

## Repair Damaged Hair

**Active Ingredients:** Lanolin, essential oils of lavender, rosemary and palmarosa.

**Nano Repair** is a blend of active ingredients encapsulated in lipid particles with particle diameter larger than 200 nm. The blend encapsulation through the technology developed by Nanovetores allows the stabilization of components complex of being formulated in their free form. Due to its natural features and non-existent chemical aggression, Nano Repair can be used daily, providing in continuous applications, repair of damaged hair and increased capillary softness.



### Characteristics

**Aspect:** Milky liquid from yellow to cream.

**Usage Concentration:** 0,1 a 5,0%

**Stability pH:** 3,0 a 7,0

**Solubility:** Water Dispersible

**Particle:** Lipidic

**Release Trigger:** Enzymatic



### Benefits

- Repairing and conditioning action
- Toning action
- Controls oiliness
- Stimulates growth
- Lipid Replacement
- Hydration



### Usage

Compatible with shampoos, conditioners, leave-on products, finishers and instant formulations.

# Description

Nano Repair is a blend of active ingredients encapsulated in lipid nanoparticles with high permeation power in the hair structure. It acts in repairing damaged hair and has a prolonged release, releasing its contents gradually over a period of 8 hours after product application.

The encapsulation of the essential oil blend through the Nanovetores Technology allows the stabilization of unstable components, therefore, complex of being formulated in their free format. It also allows easier application of the final product, due to its high dispersibility in water. The encapsulated active ingredients are deposited on the damaged areas of the hair and gradually release the repairing contents, providing greater elasticity and softness to hair and enhancing the effect of the active ingredients, supplying multifunctionality to the product.

Nano Repair acts as a repairing agent composed of a blend of essential oils rich in fatty acids, linalool, geraniol and alpha-pinene, which have toning, conditioning, antiseptic and repairing activity, as well as controlling oiliness and stimulating growth.

Lanolin is obtained as a byproduct of raw sheep wool. It is a high performance emollient responsible for ultra moisturizing hair strands and being able to repair hair that has suffered chemical treatments. Lanolin is quickly absorbed by the scalp and the hair shaft, making it ideal for transporting substances that will be absorbed by the hair strands. It reduces roughness and improves the appearance of the hair, in addition to protecting the fiber, increasing the brightness and facilitating different hairstyles<sup>(1)</sup>.

The lavender essential oil balances oiliness and has tonic action on the hair, in addition to being useful in the treatment of seborrheic dermatitis and dandruff<sup>(2)</sup>. The major component of the lavender essential oil is linalool, which gives antiseptic and antimicrobial activities, as well as regenerates the epithelial system<sup>(3)</sup>.

Rosemary is an aromatic plant whose leaves' essential oil presents compounds with skin circulation stimulant properties. The most important compounds appear to be caffeic acid and its derivatives such as rosmarinic acid. Externally, it stimulates local circulation and has antiseptic activity. On the scalp, stimulates circulation and hair growth. It provides action against dandruff and prevents hair loss, as well as acts as an antioxidant<sup>(1)(4)(5)</sup>.

Palmarosa is a plant from India, known as "Indian Geranium", its main constituent is geraniol, a substance widely used in perfumery for its aromatic properties. In addition to these properties, geraniol, which is present in the palmarosa essential oil, is responsible for antioxidant, antimicrobial and anti-inflammatory activities, and may act on cell regeneration and toning<sup>(6)(7)</sup>.

Nanovetores technology allows the active ingredients access to the hair cortex, increasing the substantivity - permanence of the active ingredient on hair after rinsing - and enhancing its effectiveness. The formation of a protective film restores and promotes healthy hair growth.

## Regulatory Information

| INCI NAME                        | CAS NUMBER  |
|----------------------------------|-------------|
| AQUA                             | 7732-18-5   |
| LANOLIN                          | 8006-54-0   |
| LAVANDULA OFFICINALIS FLOWER OIL | 84776-65-8  |
| CYMOPOGON MARTINI OIL            | 84649-81-0  |
| ROSMARINUS OFFICINALIS LEAF OIL  | 8000-25-7   |
| BUTYROSPERMUM PARKII BUTTER      | 194043-92-0 |
| BHT                              | 128-37-0    |
| POLYSORBATE 80                   | 9005-65-6   |
| PHENOXYETANOL                    | 122-99-6    |
| CAPRYLYL GLYCOL                  | 1117-86-8   |

### Approved by International Regulations:



## Physical-Chemical Information

|                   |                   |
|-------------------|-------------------|
| PHYSICAL STATE    | LIQUID            |
| FORM              | MILKY             |
| COLOR             | YELLOW TO CREAM   |
| ODOR              | CHARACTERISTIC    |
| pH                | 5,0 TO 7,0        |
| SOLUBILITY        | WATER DISPERSIBLE |
| RELATIVE DENSITY  | 0,8 TO 1,1 g/ML   |
| CHEMICAL IDENTITY | ORGANIC           |
| CHARACTERIZATION  | BLEND             |

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

\*\*As it is a suspension of nanoparticles, agitate before using.



**STORAGE:**  
MANTER EM TEMPERATURA ENTRE 20°C - 25°C

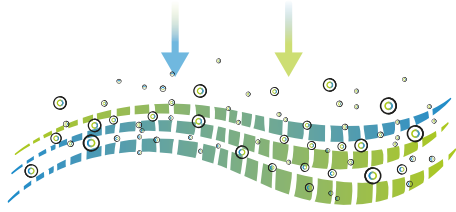


**INCOMPATIBILITY:**  
ETHANOL AND OTHER ORGANIC SOLVENTS.

# References

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- 2 - WICHROWSKI, L. Terapia Capilar: Uma Abordagem complementar. PortoAlegre: Ed. Alcance, 2007.
- 3 - SILVEIRA, S.M. et al. Chemical composition and antibacterial activity of essential oils from Cymbopogon winterianus (citronella), Eucalyptus paniculata (eucalyptus) and Lavandula angustifolia (lavender). Rev Inst Adolfo Lutz. 71(3): 471-80, 2012.
- 4 - ALONSO, J.R. Tratado de fitomedicina - bases clínicas e farmacológicas. Editora Isis. Buenos Aires: 1998.
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- 6 - CHEN, W.; VILJOEN, A.M. Geraniol - A review of a commercially important fragrance material. South African Journal of Botany, 76: 643-651, 2010.
- 7 - LAWRENCE, K.; et al. Antioxidant activity of Palmarosa essential oil (Cymbopogon martinii) grown in north Indian plains. Asian Pacific Journal of Tropical Biomedicine, 2(2): S888-S891, 2012.

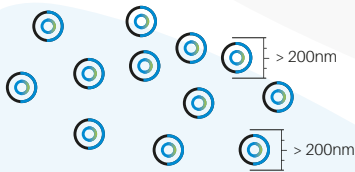
# Nanovetores Encapsulation Technology



**Multifunctional Lipid Particles** that promote hydration and high permeation.



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



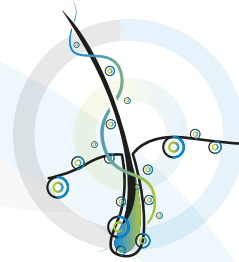
**Monodispersity**, that ensures control of the particle size, providing adequate permeation to its proposed action.



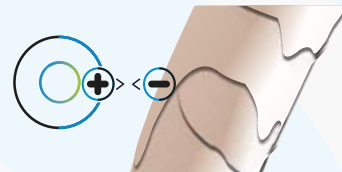
**Secure particles** larger than 200nm, biocompatible and biodegradable.



**Enzymatic Specific Release Trigger**, in which the enzymes present in our skin promote the degradation of the capsule, releasing the active ingredient.



**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 compability in the formulation

Occlusion of odors

Increased skin permeation

Reduced dose

Use of sensitive active ingredients (without refrigeration)

Increased Solubility

Prolonged release

Increased effectiveness