

nanovetor melaleuca

Acne Treatment

Ativos: Melaleuca Essential Oil

Nanovetor Melaleuca is an active ingredient encapsulated in lipid particles with particle diameter larger than 200 nm. The active ingredient consists of Melaleuca Essential Oil encapsulated with the technology developed by Nanovetores that allows the stabilization of sensitive components, therefore, complex of being formulated in free form, avoiding oxidation of the active ingredient and release of unpleasant odors. Due to its characteristics and non-existent skin irritation, Nanovetor Melaleuca can be used daily, controlling oiliness and reducing acne.



Features

Aspect: Milky white to cream liquid.
Usage Concentration: 0.5 to 5.0%
pH stability: 2.5 to 7.0
Solubility: Water Dispersible
Particle: Lipid
Release Trigger: Enzyme



Benefits

- Antimicrobial, antiseptic and astringent action.
- Oiliness control.
- Anti-acne and anti-dandruff.
- Relieves the symptoms of cold sores.



Usage

Gels, gel-cream, emulsions in general. Solutions for wet wipes, liquid soaps, shampoos and conditioners.

Descrição

Nanovetor Melaleuca is an active ingredient comprised of multifunctional particles containing Melaleuca essential oil. The active ingredient is suited for use in anti-dandruff and anti-acne products.

The main component of Melaleuca essential oil is terpinen-4-ol, which, according to studies, is responsible for antimicrobial and antiseptic actions that occur through a leukocyte activation mechanism ⁽¹⁾. Its antimicrobial action includes fungi, yeasts, gram-negative bacteria and the herpes simplex virus.

A clinical study comparing formulations containing Melaleuca essential oil 5% and commonly used benzoyl peroxide 5% for acne treatment, showed that both reduced the number of inflammatory lesions. However, formulations with Melaleuca showed less dryness and pruritus (itching) than benzoyl peroxide. In all other evaluated side effects, the group using Melaleuca also had a significantly smaller number (27 of 61 volunteers) relative to benzoyl peroxide (50 of 63 volunteers) ⁽²⁾.

According to HAMMER⁽³⁾, Melaleuca essential oil can cause allergic reactions in predisposed individuals, these reactions are caused not by the oil itself, but due to oxidation reaction byproducts that occur by exposure of components to light and oxygen. Encapsulation of the active ingredient promotes controlled release and protects the interaction with the other components of the formula and the environment, preventing oxidation and avoiding potential skin irritation. Encapsulation also promotes occlusion of the characteristic odor of Melaleuca essential oil, ensuring an improvement in the sensory experience of the final product.



Regulatory Information

INCI NAME	CAS NUMBER
AQUA	7732-18-5
MELALEUCA ALTERNIFOLIA LEAF OIL	68647-73-4
LINOLEIC ACID	60-33-3
OLEIC ACID	112-80-1
CAPRYLIC / CAPRIC TRIGLYCERIDE	73398-61-5
POLYSORBATE 80	9005-65-6
PPG-15 STEARYL ETHER	25231-21-4
STEARETH-2	9005-00-9
STEARETH-21	9005-00-9
PHENOXYETHANOL	122-99-6
CAPRYLYL GLYCOL	1117-86-8
BHT	128-37-0

Physical-Chemical Information

PHYSICAL STATE	LIQUID
FORM	MILKY SUSPENSION
COLOR	WHITE TO CREAM
ODOR	CHARACTERISTIC
pH	3.0 TO 7.0
SOLUBILITY	WATER DISPERSIBLE
RELATIVE DENSITY	0.9 TO 1.1 g/ml
CHEMICAL IDENTITY	ORGANIC
CHARACTERIZATION	BLEND

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

Approved by International Regulations:



China - IECIC



Europa - EC Cosing



EUA - CIR



Australia - AICS Inventor



Brasil - Anvisa



STORAGE:

KEEP IN TEMPERATURE BETWEEN 20°C - 25°C



COMPATIBILITY:

GELS, GEL-CREAM, EMULSIONS IN GENERAL. SOLUTIONS FOR WET WIPES, LIQUID SOAPS, SHAMPOOS AND CONDITIONERS.



INCOMPATIBILITY:

ETHANOL AND OTHER ORGANIC SOLVENTS.

References

1 - BUDHIRAJA, S.S.; et al. Biological Activity of Melaleuca alternifolia (Tea Tree) Oil Component, Terpinen-4-ol, in Human Myelocytic Cell Line HL-60. Journal of Manipulative and Physiological Therapeutics, v. 22, p. 477- 453, 1999.

2 - CARSON, C. F.; HAMMER, K. A.; RILEY, T. V. Melaleuca alternifolia (Tea Tree) Oil: a Review of Antimicrobial and Other Medicinal Properties. Clinical microbiology reviews, v. 19, p. 50-62, 2006.

3 - HAMMER, K.A.; et al. A review of the toxicity of Melaleuca alternifolia (tea tree) oil. Food and Chemical Toxicology, v. 44, p. 616-625, 2006.

Effectiveness Test

Nanovetor Melaleuca has been clinically tested for its safety and effectiveness in an accredited laboratory.

Evaluated product: Gel Cream with Nanovetor Melaleuca 5%

Evaluation period: 4 hours in vivo evaluation in normal use of the product.

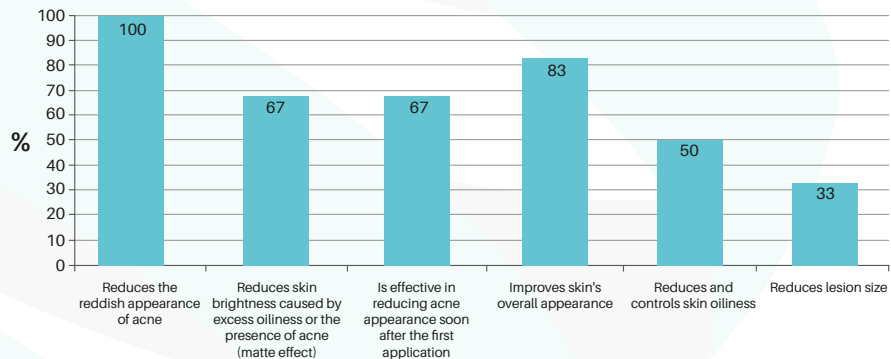
Baseline

After 4 Hours



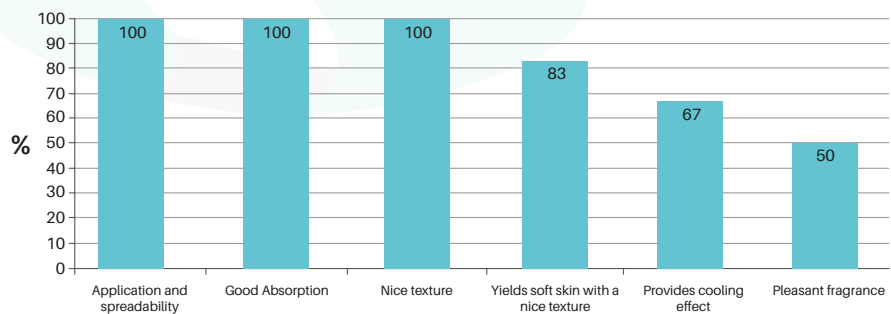
a) The following percentages were confirmed by research participants who considered the investigational product effective in each evaluated attribute:

Regarding purchase intention, 100% of research participants said they would buy the product



b) Regarding the sensory features of the investigational product, the following percentages were confirmed by research participants who considered the investigational product to be pleasant:

Regarding purchase intention, 100% of research participants said they would buy the product



Conclusion: It reduces the reddish appearance of acne: 100% of volunteers noticed that product is effective in reducing acne appearance soon after the first application, 67% of the volunteers reported skin oiliness control, 50% of the volunteers noted that lesion size reduced by 33%.

Suggested Formula

Gel-cream with Nanovetor Melaleuca 5%

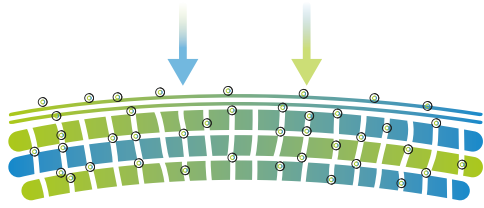
PHASE I %	PHASE II %	PHASE III %
EDTA-2NA.....0,10 Glycerin.....2,00 Water qsp..... 100,00	Xanthan gum.....2,00 Phase 1qs	Pemulem TR10,30 Phase 1.....qs
Technique: Solubilize and reserve	Technique: Disperse in 1/3 of phase 1	Technique: Disperse in 1/3 of phase 1
PHASE IV %	PHASE V %	PHASE VI %
Carbolol 940.....0,40 Phase 1.....qs	Cetostearyl alcohol 1,00 BHT0,05 Glyceryl monostearate3,00 Triglycerides of caprylic and capric acid.....3,00	Preservative.....qs Fragrance.....0,20 Nanovetor Melaleuca.....5,00
Technique: Disperse in 1/3 of phase 1	Technique: Heat to 80°C	Technique: Reserve to add each one separately
FASE VII %		
AMP qs pH=6,5 - 7,0qs		
Technique: Reserve		

- 1- Mix phase 1, 2, 3 and 4 and heat to 80 °C
- 2- Pour 5 over 1+2+3+4 and stir vigorously for 10 minutes at 80°C
- 3- Adjust pH=6.5 - 7.0 with phase 7
- 4- Start cooling
- 5- Below 40 °C add phase 6

Usage Protocol

- 1 On a clean face, apply a small amount of product in areas affected by acne. Wait until product dries completely

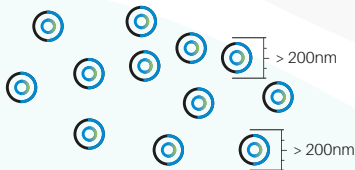
Nanovetores Encapsulation Technology



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.



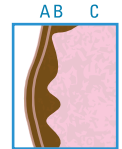
Secure particles larger than 200nm, biocompatible and biodegradable.



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

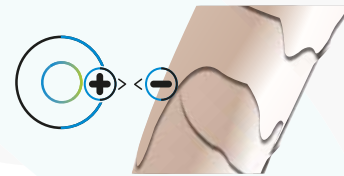


Deposição do ativo quando aplicado de forma livre



Maior permeação do ativo quando encapsulado

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