



nanovetor vitamina C

Skin Tone Standardization

Active ingredients: Ascorbyl Palmitate and Pomegranate Oil

Nanovetor Vitamina C 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 protection against oxidation of vitamin C, ensuring the delivery of the benefits associated with its use. The goal of the active ingredient is to standardize skin tone, lightening dark spots. Due to its natural features and non-existent chemical aggression, Nanovetor Vitamin C can be used daily providing in continuous applications, skin tone standardization.



Features

Aspect: Milky liquid from white to cream.

Usage Concentration: 0.5 to 10%

pH Stability: 3.0 to 7.0

Solubility: Water Dispersible

Particle: Lipid

Release Trigger: Enzyme



Benefits

- Lightening effect
- Firming action
- Antioxidant
- Reduction of wrinkles and expression lines.



Usage

Primers, creams, masks, serums, gels, facial cream-gels and for the eye area, liquid soaps, make-up removers and products for skin tone standardization.

Description

Nanovetor Vitamin C is a blend of active ingredients encapsulated in lipid nanoparticles, with an enzymatic release trigger, which promotes firming action by stimulating collagen synthesis. As it has a prolonged release, the active ingredient releases about 80% of its contents in the course of 8 hours after product application.

The blend encapsulation through the technology developed by Nanovetores allows the stabilization of sensitive components, therefore, complex of being formulated. In their free form, both Ascorbyl Palmitate and pomegranate oil present instability regarding oxidation linked to solubilizing pharmacotechnical difficulties in the final product. The technology grants active ingredients an increase in the cutaneous permeation, increment of sensory input in the final product, and presents as multifunctionality high moisturizing properties, since it operates in the lipid parts and prevents transepidermal water loss (TEWL).

Vitamin C is the only antioxidant proven to increase and regulate collagen synthesis. It also promotes the formation of the stratum corneum lipid barrier, normalizing the epidermis lipid profile. Topically can also be applied to heal wounds, reducing wrinkling and preventing the erythema associated with laser treatment ⁽¹⁾⁽²⁾.

Ascorbyl palmitate is widely known for its antioxidant, lightening, anti-aging and moisturizing activity (3). Pomegranate Oil, rich in fatty acids, vitamin A and flavonoids, provides antioxidant activity by inhibitory mechanism of oxidative enzymes as well as stimulates the proliferation of keratinocytes, improving the cell renewal process.

The active ingredients in the blend work synergistically in the treatment and prevention of skin aging processes, promoting firmness and standardization of skin tone. These benefits can be noticed in the first week of use of Nanovetor Vitamin C.

Regulatory Information

INCI NAME	CAS NUMBER
AQUA	7732-18-5
PUNICA GRANATUM SEED OIL	84961-57-9
STEARIC ACID	57-11-4
OLEIC ACID	112-80-1
PALMITIC ACID	57-10-3
ASCORBYL PALMITATE	137-66-6
POLYSORBATE 80	9005-65-6
PPG-15 STEARYL ETHER	25231-21-4
STEARETH-2	9005-00-9/16057-43-5
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
COLOR	WHITE TO CREAM
ODOR	CHARACTERISTIC
pH	2.5 TO 4.5
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, agitate before using.

Approved by International Regulations:



China - IECIC



Europa - EC Cosing



EUA - CIR



Australia - AICS Inventor



Brazil - ANVISA



STORAGE:

KEEP IN A TEMPERATURE BETWEEN 20°C - 25°C.



COMPATIBILITY:

COMPATIBLE WITH EMULSIONS IN GENERAL AND NONIONIC, ANIONIC AND CATIONIC GELS.



INCOMPATIBILITY:

EETHANOL AND OTHER ORGANIC SOLVENTS

References

1 - PINNELL, S.R.; MADEY, D.L. Topical Vitamin C in Skin Care. Aesthetic Surgery Journal, v. 18, n. 6, p. 468-470, 1998.

2 - SHAPIRO, S.S.; SALOUJ, C. Role of Vitamins in Skin Care. Nutrition, v. 17, n. 10, p. 839-844, 2001.

3 - M. Üner, S. A. Wissing, G. Yener, R. H. Müller, Pharmazie 60: 751-755, 2005.

4 - MANELA-AZULAY, M.; et al. Vitamina C. Anais Brasileiros de Dermatologia, v. 78, n. 3, p. 265-274, 2003.



nanovetores
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Effectiveness Test

Nanovetor Vitamina C has been clinically tested for its safety and efficacy in an accredited laboratory.

Evaluated product: Cream with Nanovetor Vitamin C 10%

Safety Assessment

The product was evaluated for Primary Skin Irritation, Cumulative Skin Irritation and Skin Sensitization.

Evaluation period: 7 days in vivo evaluation in normal use of the product.

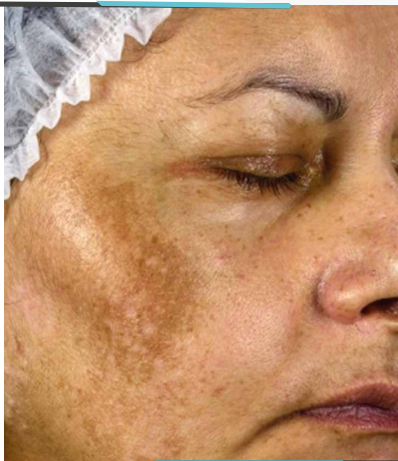
Result: The product did not induce detectable irritation phenomena during the study period and is considered safe for topical use.

Evaluation of clinical effectiveness

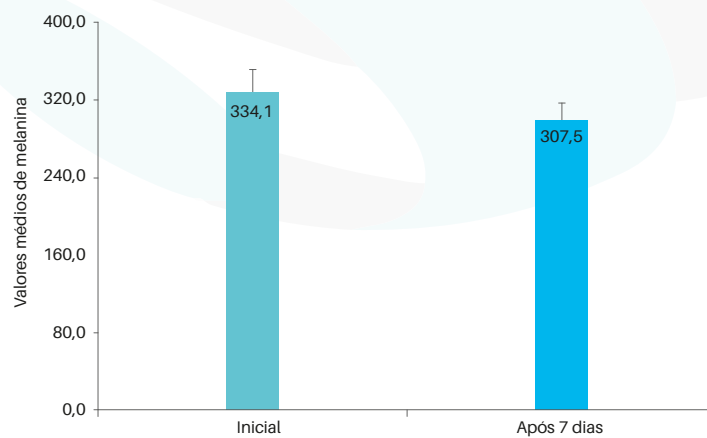
Melasma color evaluation by Mexameter index

Evaluation period: 7 days in vivo evaluation in normal use of the product.

Before



After



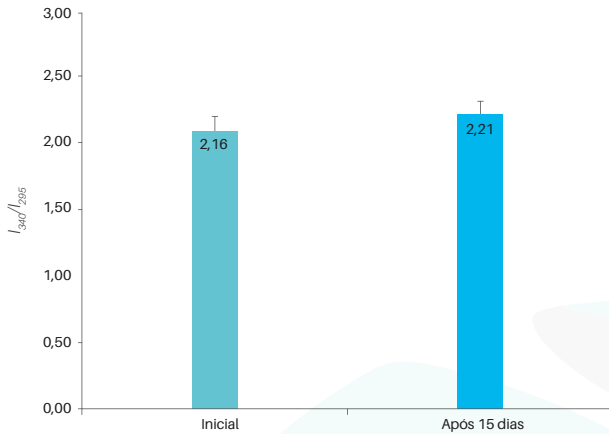
Melanin average values obtained at baseline and after 7 days of use of the investigational product (n = 6)

Result: the product showed an 8% reduction in melasma color intensity in just 7 days of use.

Diffuse reflectance spectroscopy

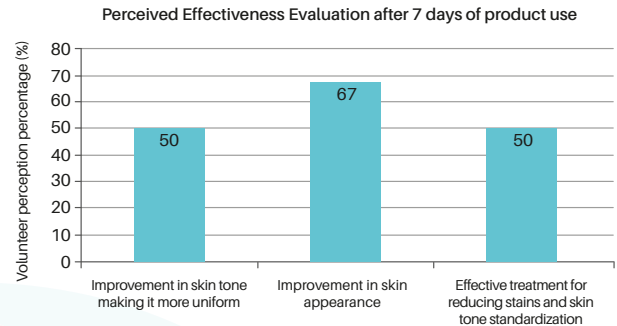
Molecular technique that evaluates the stimulation of collagen synthesis

Evaluation period: 15 days in vivo evaluation in normal use of the product.



Collagen intensity, I_{340}/I_{295} according to time. Mean + - standard deviation.

Result: 100% of volunteers showed stimulation of collagen synthesis in 15 days of product use.



Stability study of Nanovetor Vitamin C in cosmetic products

After 30 days of storage, the product Nanovetor Vitamin C showed only 2% loss of Vitamin C. With this result, Vitamin C present in Nanovetor Vitamin C is stable per standards related to product shelf life.

Suggested Formula

Cream with Nanovetor Vitamin C 10%

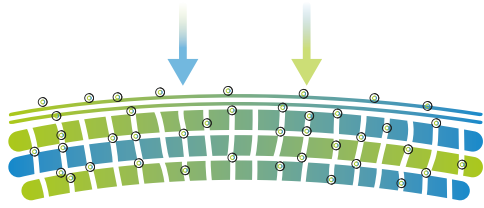
PHASE I %	PHASE II %	PHASE III %
Glycerin.....3,00 Water qsp..... 100,00	Hydroxyethyl.....0,30	Oliwax..... 1,00 Olivem 1000.....3,00 Glyceryl Monostearate.....6,00 Cetostearyl alcohol.....2,00 BHT.....0,05 DC350 Silicone..... 1,00 Triglycerides of caprylic and capric acid..... 10,00
Técnica: Reservar	Technique: Disperse in phase 1 under stirring	Technique: Heat to 75 °C
PHASE IV %	PHASE V %	
Preservative.....q.s Fragrance.....0,2	Nanovetor Vitamina C..... 10,00	
Technique: Reserve	Technique: Reserve	

- 1- Heat phase I + phase II to 75°C
- 2 - Add phase III on I+II under vigorous stirring.
- 3 - Keep stirring and temperature (75 °) for 10 minutes
- 4 - Start cooling
- 5 - Below 40 °C add stage IV and V and mix.

Usage Protocol

- 1 On clean skin, apply the product in the desired area, twice a day.

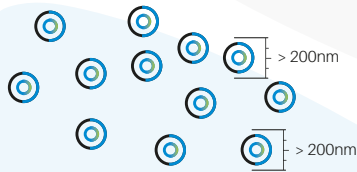
Nanovetores Encapsulation Technology



Multifunctional Lipid Particles that promote hydration and extended effect.



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, where enzymes present on the skin disintegrate particles, releasing the active ingredient specifically where it needs to act.

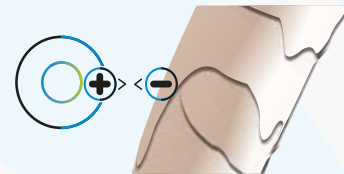


Active ingredient deposition when applied freely



Greater permeation of the active ingredient when encapsulated

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

Oclusion of odors

Increased skin permeation

Reduced dose

Use of sensitive active ingredients (without refrigeration)

Increased Solubility

Prolonged release

Increased effectiveness