Import and distribution for Serbia: Farmadria DOO
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Product Name: Vitamin C (Magnesium ascorbyl phosphate)

INCI Name: Magnesium Ascorbyl Phosphate

CAS: 113170-55-1

Chemical Classification: Heterocyclic compound, organic salt

Functional Category: Antioxidant, skin and hair conditioning agent, skin whitening substance

Description: A highly stable, water-soluble derivative of vitamin C. It does not degrade in formulations containing water. It is stable in light and in the presence of oxygen. A white to yellowish powder with a mild odor. It may cause a change in the color of the final product if the pH is below 5. Soluble in water (154g / l at 25°C, corresponding to a 15% solution)

Effects on the skin: Inhibits the enzyme tyrosinase, which is involved in the synthesis of melanin. It is an essential cofactor in the biosynthesis of collagen. It is necessary for the transition of procollagen molecules from fibroblasts into the extracellular space. Prevents and corrects signs of skin aging. In sunscreen creams, in combination with UVA or UVB filters, it enhances protection compared to ordinary sunscreen creams without magnesium ascorbyl phosphate. Provides much better protection than vitamin E when it comes to phototoxic effects of UVA rays on the skin. As a powerful antioxidant, it reduces the oxidized form of vitamin E and returns it to its active form, thereby re-utilizing the antioxidant properties of vitamin E.

Benefits:

- ***Neutralization of free radicals:*** Free radicals are unstable molecules that can damage skin cells, including DNA, proteins, and lipids in cell membranes. They are a result of various external factors such as UV radiation, pollution, smoking, and other environmental stressors. MAP acts as an antioxidant neutralizing these free radicals, thereby reducing their harmful impact on the skin.

- ***Prevention of photoaging:*** Exposure to UV rays can accelerate the aging process

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of the skin, a phenomenon known as photoaging, which manifests through wrinkles, loss of elasticity, and hyperpigmentation. MAP helps protect the skin from damage caused by UV radiation through its antioxidant properties, thereby contributing to slower aging of the skin.

• ***Stimulation of skin renewal and repair:*** Antioxidants like MAP can stimulate skin renewal and repair processes, helping to repair damage caused by free radicals.

• ***Whitening effect:*** MAP works by inhibiting the activity of tyrosinase, an enzyme crucial for the synthesis of melanin in the skin. By reducing the activity of tyrosinase, MAP effectively decreases the production of melanin, leading to the gradual lightening of dark spots and evening out of skin tone.

• ***Prevention of hyperpigmentation:*** In addition to treating existing dark spots, MAP can also help prevent the formation of new hyperpigmentation. This is especially useful in combating the appearance of spots that can arise as a result of sun exposure, hormonal changes, or skin damage.

• ***Collagen production:*** MAP stimulates the production of collagen, improving the elasticity and firmness of the skin. This can help reduce the appearance of fine lines and wrinkles.

• ***Anti-inflammatory properties:*** Possesses anti-inflammatory properties that can help soothe redness and inflammation. This makes MAP an excellent ingredient for products intended for sensitive or reactive skin types.

• ***Hydration:*** Magnesium Ascorbyl Phosphate can help hydrate the skin, improving its natural barrier function and helping to retain moisture.

• ***Improved product stability:*** Compared to other forms of Vitamin C, MAP is more stable and less likely to degrade in formulations when exposed to light or air. This stability ensures that the product remains effective over time, providing continuous benefit to the skin.

Use in cosmetic products: Can be applied daily, over a long period of time. Rarely, stinging, erythema, and skin dryness are observed after application. These changes

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quickly subside after the application of skin moisturizing products. In the form of skin exfoliating lotions, it is used for daily care, as it gently exfoliates the skin while moisturizing/hydrating. It is added at the end of the formulation just before the preservative, by dissolving in a little distilled water. Typical concentrations are 0.2-3%. In cosmetic products for lightening (whitening) of spots and freckles, it is used in concentrations of 3-5%, but up to 10%. It is used for making lotions, creams, care products, pre- and post-sun exposure products, and makeup products.

Source materials from which it is obtained: L-ascorbic acid, magnesium, and phosphoryl chloride (or another phosphorylating agent)

Method of production: It is produced by direct phosphorylation of the magnesium salt of ascorbic acid, where l-ascorbic acid is suspended in an oxygenated, non-hydroxyl solvent along with magnesium and then treated with a phosphorylating agent.

Animal testing: The substance has not been tested on animals

GMO: Not GMO

Vegan: Does not contain animal-derived components

Safety of use: According to the recommendations of the Cosmetic Ingredient Review (CIR) Expert Panel, it is considered a safe cosmetic substance.