

Magnesium Ascorbyl Phosphate

Description

Vitamin C (ascorbic acid) is a normal constituent of human skin, and is concentrated in the dermis and epidermis. It is one of the most widely used antioxidants for protecting the skin. Vitamin C can inhibit the activity of tyrosinase and therefore decreases the melanin production. In addition, vitamin C is important to help protect the skin against UV-induced free radical damage that is related to skin aging. Unfortunately, pure vitamin C is not stable in cosmetic formulations and easily oxidized when exposed to air or light. To avoid this oxidation process and to provide the maximum benefit of vitamin C, it is recommended to use a stable form of vitamin C in personal care preparations.

Magnesium Ascorbyl Phosphate is an esterified derivative of ascorbic acid, that shows one of the best stability features known. It is also very stable in cosmetic formulations. Magnesium Ascorbyl Phosphate penetrates into the skin and there it is metabolized to ascorbic acid. Due to this process its efficacy is better than the one of pure ascorbic acid. It resists discoloration and degradation, while retaining all biological activity of L-ascorbic acid.

Efficacy

- decreases the generation of melanin by inhibition of tyrosinase activity
- acts as an antioxidant
- decreases wrinkle progression
- reduces fine lines
- improves skin lightening
- improves radiance and an even skin tone
- increases collagen production
- reduces and repairs sun damages on the skin

Appearance

white to almost white powder

INCI

Magnesium Ascorbyl Phosphate

Registration

CAS-No.....114040-31-2 (appr. 88 %)
.....113170-55-1 (appr. 12 %)
EC-No.....601-295-4 (appr. 88 %)
.....601-239-9 (appr. 12 %)

Preservatives / Stabilizers

none

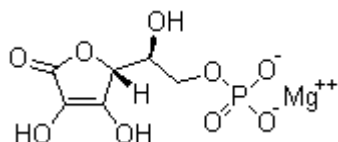
Nature needs no cosmetics,
but cosmetics need nature



Magnesium Ascorbyl Phosphate

Characteristics

assay..... $\geq 98.5\%$
specific rotation $\alpha_D^{20^\circ}$ $+20.0^\circ - +26.5^\circ$
pH-value (3 % solution).....7.0 - 8.5
loss on drying..... $\leq 20.0\%$



molecular formula..... $C_6H_7O_9P_3Mg$
..... $C_6H_6O_9P_3 \cdot 3/2 Mg$
molecular weight.....278.4 g/mol (appr. 88 %)
.....289.45 g/mol (appr. 12 %)

Application

high quality cosmetic products
creams and lotions
face masks
gel and ampoules

Application concentration

skin care formulations.....0.1 - 3 %

Incorporation

Magnesium Ascorbyl Phosphate can easily be incorporated in cosmetic emulsion and other formulations into the water phase. The recommended pH range is 7 to 8.5.

For better stability it is recommended to use a buffer and/or a chelating agent. Suitable agents are for example citric acid (0.1 - 1.0 %), sodium citrate (0.1 - 1 %) in combination with EDTA-2 or 4Na (0.1 %).

Magnesium Ascorbyl Phosphate is stable for more than 90 days under different conditions (45°C, -15°C, room temperature and under day light).

Toxicology

non hazardous in normal use concentration

Storage & Shelf life

Magnesium Ascorbyl Phosphate should be stored in sealed containers at a cool, dry and light protected place at 10 - 25°C.

In closed original containers the shelf life is 24 months.