

No.90 East Zhongshan Road Tel: +86 25 84523390 84523391 Nanjing China Fax: +86 25 84520790 84520791

Magnesium ascorbyl phosphate

Technical Data Sheet

INCI Name: Magnesium ascorbyl phosphate

Product Code: SC-2198

Chemical Name: Magnesium L-Ascorbyl acid-2-phosphate

CAS No.: 114040-31-2

 $C_6H_8O_9P \cdot \frac{3}{2}Mg$ Molecular Formula:

Structure:

Vc-PMG is a kind of water soluble whitening agent, and it can catch free oxygen radical to accelerate the formation of collagen. It is stable, non-poisonous and non-irritating, being an excellent additive in the modern functional whitening cosmetics.

Mechanism:

Magnesium ascorbyl phosphate (MAP) is a stable, aqua-soluble provitamin C. With ascorbate's sensitive hydroxyl group modified by phosphoric ester, Magnesium ascorbyl phosphate is resistant to atmospheric oxygen. Though it is not physiologically active, various effects appear after it is converted to ascorbate via hydrolysis catalyzed by dermal phosphatase. With the chemical stability, MAP enables not only an easy formulation of vitamin C in cosmetics, but also its effective delivery into the skin.

Main Functions

- Formation of collagen
- Antioxidative properties

capable of improving various skin troubles. After the absorption by the skins, it can eliminate free oxygen radical in order to remove wrinkles with anti-aging function. There is synergic effect with Vitamin E.

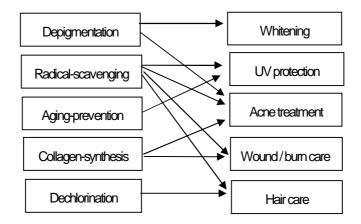


Spec-Chem Ind.

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• Suppressing effect on the pigmentation

Inhibitting the activity of tyrosinase, with spots removing and whitening effect.



MAP has been mainly utilized as an active ingredient of whitening cosmetics. Recent investigations show us various possibilities to utilize them as multi-functioning, stable 'provitamin C'. Intradermal and extradermal protective effects against UV-generated radicals suggest the use for UV-care products.

As clinical studies strongly support, acne, being re-identified as a radical disease, is another candidate that we should apply MAP for. Enhancement of collagen synthesis helps the recovery of wound and burn, in which also reduction of active oxygen species have an important role.

APPLICATION:

- Skin lightening products
- · Daily skin care
- Sun care
- · Oral care

COMPATIBILITY

Incompatible with metal ions (degradation)

STABILITY IN FORMULATIONS

pH value • about pH 7

Light • Unstable under UV light

Temperature • 50 °C at least for 10 weeks (aqueous solution)

80 °C at least for 20 hours (aqueous solution)



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GENERAL INFORMATION:

Appearance: Almost white powder

Assay: Not less than 98.5%

Color of solution (3% solution): Pale yellow, transparent

pH value (3% in water): 7.0 -- 8.5

Specific rotation[a]D20: +43-+50(c=2)

Solubility: 8g/100ml water (25℃)

USE LEVEL:

3 % in skin lightening products (quasi drug approved in Japan, use level 3.0 %);

0.5 - 2 % in anti-aging and clarifying products;

- 0.5 % in tooth pastes.

PACKAGE:

1.0kg Aluminum foil bag.