

Ascorbyl Tetraisopalmitate

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.

Ascorbyl Tetraisopalmitate is an easy to formulate oil soluble derivative of the Vitamin C. It is stable against heat and light and is lipid-soluble, easy to use for cosmetics. It exhibits excellent percutaneous absorption and effectively converts into free Vitamin C in the skin to perform various physiological functions. 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
- improves skin lightening
- improves radiance and an even skin tone
- increases collagen production
- protects the skin from environmental damages

Appearance

colourless to pale yellow liquid

INCI

Ascorbyl Tetraisopalmitate

Registration

CAS-No.....183476-82-6

EC-No.....430-110-8

Preservatives / Stabilizers

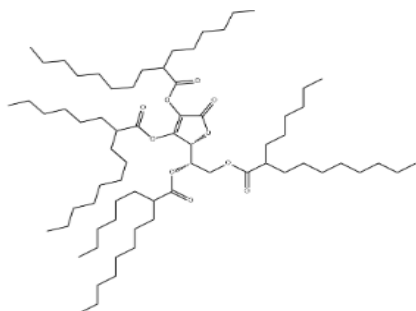
none

Nature needs no cosmetics,
but cosmetics need nature

Ascorbyl Tetraisopalmitate

Characteristics

assay (HPLC).....>= 95 %
 specific gravity (density meter).....0.92 - 0.96
 refractive index (refractometer).....1.440 - 1.480



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molecular weight1129.76 g/mol
 molecular formula.....C₇₀H₁₂₈O₁₀
 synonyme:
 1S)-1-[(2R)-3,4-bis[(2-hexyldecanoyl)oxy]-5-oxo-2,5-dihydrofuran-2-yl]-2-[(2-hexyldecanoyl)oxy]ethyl 2-hexyldecanoate

Application

daily cosmetic products
 creams and lotions
 face masks
 ampoules
 body care
 oil treatments

Application concentration

skin care formulations.....0.1 – 5 %

Incorporation

Ascorbyl Tetraisopalmitate is oil soluble. The pH-value should be in the range of 5.5 - 7.0. It is recommended to add the product into formulation right before pH adjustment. The material is relatively thermostable, short exposure (10-30 mins) is feasible: 80 °C approx. 85 - 90 % efficacy remains after 30 mins, 100 °C approx. 70 - 80% remains after 15 mins, longer times of exposure lead to further reduction of potency. Addition of 0.05 - 0.2 % of a fat-soluble antioxidant like tocopherol supports stability.

Toxicology

non hazardous in normal use concentration
 pure raw material is very toxic to aquatic life with long lasting effects

Storage & Shelf life

Ascorbyl Tetraisopalmitate should be stored in original sealed containers in a dry, well-ventilated and light protected place at temperatures between 10 – 25 °C. Keep away from open flames, hot surfaces and sources of ignition.

In closed original containers the shelf life is 24 months.