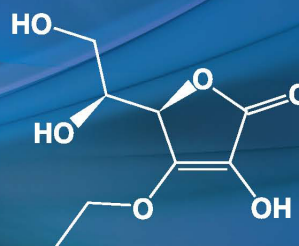


INTERNATIONAL MANUFACTURED PATENT

COS-VCE[®] (ENB-VCE[®])

3-O-ETHYL ASCORBIC ACID



COS-VCE (ENB-VCE)

Molecular formula : C₈H₁₂O₆

Molecular weight : 204.18

CAS No. : 86404-04-8

Vitamin C content : 86.3%



SPECIFICATION

ITEM	SPECIFICATION
Appearance	White crystals or Crystalline powder
Assay(by HPLC)	95.0 ~ 99.9%
pH(3%)	3.0 ~ 4.5
Melting point	111 ~ 116 °C
Heavy metal	20 ppm max.
Arsenic	2 ppm max.
Loss on drying	0.01 ~ 2.0%

DESCRIPTION

COS-VCE is white crystal or crystalline powder, odorless or with unique odor characteristic to the material, consisting of a stabilized ethyl L-ascorbic acid. Etherification of ascorbic acid at position 3 protects vitamin C from destruction by oxidation, the L-ascorbic acid molar activity of the ethyl of vitamin C is equivalent to L-ascorbic acid.



CosMol Co., Ltd.

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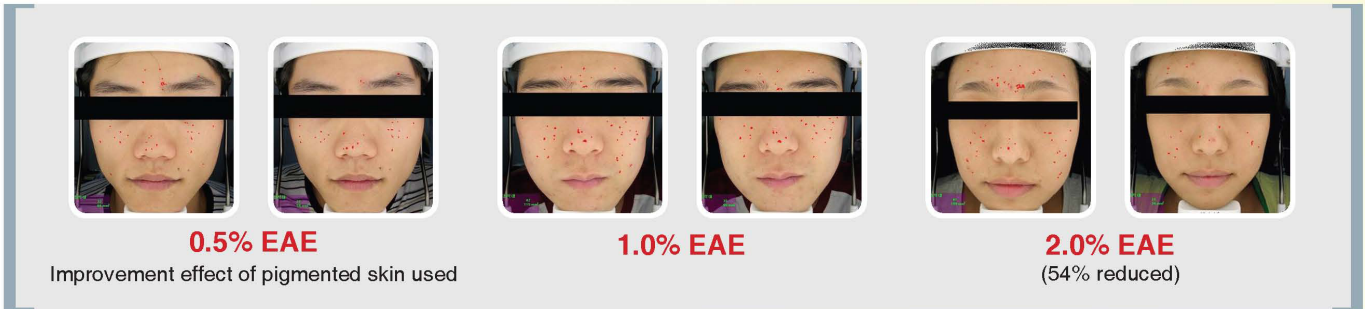
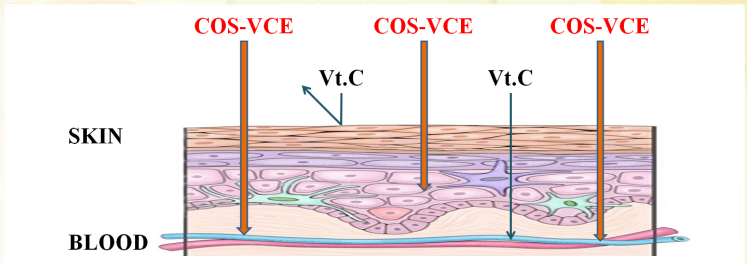
Phone : +82-70-4035-8254 Fax : +82-31-354-5254 www.cosmol.co.kr

SAFETY and STABILITY

COS-VCE is a product that has solved the structural instability of Vitamin C and is metabolized by the human body in the same manner as Vitamin C. It is safe and stable on weak acid skin surface. COS-VCE proved to be stable in a buffer solution and aqueous solution at 40°C for 90 days. This result was made possible as the en-diol structure of ascorbic acid became stable and was protected from the metal ions by the action of the ethoxy of the 3rd position.

WHITENING EFFECT

COS-VCE have multiple inhibition effect in melanogenesis. The first is inhibition of tyrosinase activity, the second is inhibition of polymerization of melanin monomers in the melanogenesis pathway. It has proved to be effective for bleaching and brightening as a mixed form into cosmetics by 2%.



UV-introduced melanization

TESTED SUBSTANCE	CONCENTRATION(%)	Rate of inhibition of DHICA(%)
Ascorbic acid (vitamin-C)	0.1	70
VC – PMG	0.1	20
AA - 2G	0.1	20
COS-VCE	0.1	80

REFERENCE : Journal of Japanese Cosmetic Science Society v.27 no.4 2003 pp.257-268

EFFICACY

COS-VCE is an antioxidant with a powerful reduction capability. It reduces fatty acid peroxide generated within the cosmetics and prevents deterioration. It also works as a anti-inflammatory when applied to the surface of skin. It suppresses the development of serotonin edema, as shown in results that a dramatic improvement was observed.