

VITAMIN A PALMITATE

1.0M (Toc.) / 1.7M (Toc.)



Definition

Vitamin A Palmitate is an active ingredient for cosmetic products. It releases Vitamin A on contact with enzymes in the skin. Vitamin A stimulates cell growth and increases enzyme activity. Therefore Vitamin A is a very effective active ingredient for anti-wrinkle and anti-aging products.

Vitamin A Palmitate 1.0M ($\approx 1.000.000$ IU/g) is prepared from synthetic Retinyl Palmitate by dilution with sunflower oil and 2% DL-alpha Tocopherol as an antioxidants.

Vitamin A Palmitate 1.7M ($\approx 1.700.000$ IU/g) is an oily concentrate prepared from synthetic Retinyl Palmitate stabilized with 2% of DL-alpha Tocopherol.

Synonymous names

all-(E)-retinol palmitate
Retinyl Palmitate
all-trans retinol palmitic acid ester

Official adopted names and nomenclatures

CAS No.: 79-81-2
EINECS No.: 201-228-5
INCI name: Retinyl Palmitate
CN code: 2936 2100

Producer: ZHEJIANG MEDICINE CO. Ltd., China

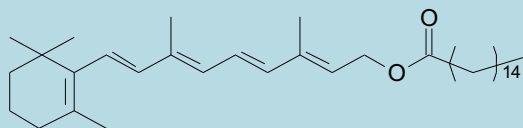


Kyowa Hakko Europe GmbH
Daiichi Fine Chemical Division

SPECIFICATION*

Chemical name: all-(E)-retinol palmitate

Chemical structure:



Molecular formula: $C_{36}H_{60}O_2$

Molecular weight: 523,87

Appearance: yellow, oily liquid, partial crystallization may occur in highly concentrated solutions

Identification: Thin-layer chromatography: conforms

Tests:

Acid value: max. 2,0

Peroxide value: max. 10,0

Related substances: Ultraviolet and visible absorption spectrophotometry

$$A_{300}/A_{326} = \text{max. } 0.60$$

$$A_{350}/A_{326} = \text{max. } 0.54$$

$$A_{370}/A_{326} = \text{max. } 0.14$$

Content/assay: A. UV absorption spectrophotometry
B. liquid chromatographie
95,0% to 110,0% of Vitamin A Palmitate content stated on the label

*meets the quality requirements of the Ph. Eur. Monograph for Vitamin A Concentrate (oily form), synthetic

Other properties

Heavy metals (as PB): ≤ 10 ppm

Arsenic: ≤ 2 ppm

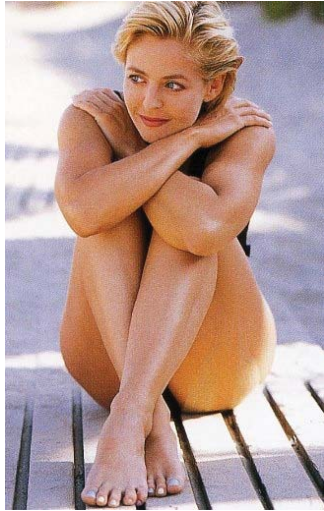
Vitamin A Palmitate (Toc.) meets all quality requirements of the relevant monographs of USP and FCC, when tested according to these compendia.

Storage and packaging

- Storage:** Store in unopened original container and in cool conditions (8°C to 20°C). Product should be protected from light, heat, oxygen and humidity. Keep the container tightly closed. Once opened, it is recommended to use the remaining contents as quickly as possible.
- Standard packaging:** 5 kg aluminium tins
20 kg or 50 kg metal drums
- Expiry date:** In unopened original packaging and under adequate storage conditions (8°C to 20°C) minimum 12 months after manufacturing date.
- Solubility:** Soluble in fats, oils and hydrogenated carbons. The solvent should not contain peroxides. Insoluble in water.



- Microorganism:**
- | | |
|------------------------|-----------------------|
| aerobic bacteria count | ≤ 1000 cfu/g |
| fungi and yeast | ≤ 100 cfu/g |
| coliform species | ≤ 30 MPN/100g |
| salmonella | not detectable in 25g |
| st. aureus | not detectable in 1g |
- Toxicity data:** The CIR expert panel concludes that Retinyl Palmitate and Retinol are safe as cosmetic ingredients in the present practice of use and concentration. A CIR report is available.



Recommendations for cosmetic use

According to Gesellschaft Deutscher Chemiker (GDCh)¹⁾ the following Vitamin A Palmitate supplementations are recommended:

| | |
|---------------------|---------------|
| Day cream: | 0,05% - 0,15% |
| Night cream: | 0,10% - 0,30% |
| Hand cream: | 0,05% |
| Body lotion: | 0,05% - 0,10% |
| After sun cream: | 0,10% - 0,20% |
| After sun lotion: | 0,05% - 0,10% |
| Oil based products: | 0,30% |

The maximum quantities legally permitted for use in cosmetics must be observed.

¹⁾Datenblätter zur Bewertung der Wirksamkeit von Wirkstoffen in kosmetischen Mitteln.
Vitamin A und seine Ester, Stand 7/97.

The data submitted in this publication are based on our current knowledge and experience. They do not constitute a guarantee in the legal sense of the term and, in view of the manifold factors that may affect processing and application, do not relieve those to whom we supply our products from the responsibility of carrying out their own tests and experiments. Any relevant patent rights and existing legislation and regulations must be observed.



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