

DL-alpha-tocopherol

Human Nutrition


The Chemical Company

Chemical names

Vitamin E, DL- α -tocopherol, all-rac-alpha-tocopherol, racemic 5,7,8-trimethyltolcol

EU designation

Alpha-tocopherol E 307

CAS No. 10191-41-0

EINECS No. 233-466-0

Product number

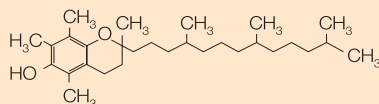
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Units

1 mg of DL- α -tocopherol = 0.74 D- α -TE
= 1.10 former USP
units

Description

Clear, colorless or yellow to brown, virtually odorless, viscous oil.



C₂₉H₅₀O₂ Molar mass 430.7 g/mol

Specifications

Identification (GC):	conforms
Appearance:	conforms
Assay (Ph.Eur.):	96.0-102.0%
Assay (USP/FCC):	96.0-102.0%
Optical rotation:	-0.01° to +0.01°
Acidity (USP/FCC):	conforms
Related substances (Ph.Eur.; impurity A):	≤ 0.5 Area-%
Related substances (Ph.Eur.; impurity B):	≤ 1.5 Area-%
Related substances (Ph.Eur.; impurity D + E in sum)	≤ 1.0 Area-%
Related substances (Ph.Eur.; any other impurity max. 0.25 Area-% each):	conforms
Related substances (Ph.Eur.; total impurities):	≤ 2.5 Area-%
Lead (FCC, E307; max. 2 mg/kg):	conforms
Specific absorbance (E307; at max. 292 nm in ethanol 72.0-76.0):	conforms
Refractive index (E307; 1,503-1,507):	conforms
Sulphated ash (E307; max. 0.1%):	conforms
Mercury (E307; max. 1 mg/kg):	conforms
Arsenic (E307; max. 3 mg/kg):	conforms
Heavy metals (E307; max. 10 mg/kg):	conforms

Unless otherwise stated, the methods of analysis can be found in the Ph.Eur.

Solubility

Soluble in hydrocarbons, chlorinated hydrocarbons, alcohol, fats and oils; insoluble in water.

Monographs

The product complies with the current "all-rac-alpha-tocopherol" Ph.Eur., "Vitamin E" USP, "all-rac-alpha-tocopherol" FCC monographs as well as the "E307" EC directives on food additives.

Stabilization/Stability

DL- α -tocopherol is sensitive to oxidizing agents, turning dark when exposed to air and light.

Stored in the unopened original packaging at room temperature (max. 25°C), the product is stable for up to 24 months.

Standard packaging

5, 25, 50 and 190 kg.

Please see appendix I for further information.

Storage

The product should be stored tightly sealed in a dry place, protected from light at max. 25°C. Once opened, it is recommended to flush the packaging with an inert gas and to use the remaining contents as quickly as possible.

Applications

Dietary supplements:

DL- α -tocopherol is used mainly as an antioxidant in preparations containing fat (ointments, creams and oils). The Vitamin E acetate is more stable and therefore preferred as an active ingredient.

Pharmaceutical products:

EU Drug Master File is available.

Sterilization of the final product is required for parenteral use. Further information can be found in the book "Functions and Applications of BASF Pharmaceutical Excipients".

Food products:

DL- α -tocopherol is used as an antioxidant to increase the stability of fats (oils, margarine, baking and frying fats, fish oil) and fatty products (ready-made desserts containing cream, soup powders, cocoa, dietetic and frozen products, potato crisps, essences and chewing gum) and to protect vitamin A and carotene in oils and other food products. Regular quantities are between 200 and 500 mg/kg of fat and up to 1,000 mg/kg is used in essences and chewing gum. By adding tocopherol, the shelf life of meat products sensitive to oxidation (particularly pork and turkey) can be improved. The acetate is more stable and therefore preferred for the fortification of food products with vitamin E.

Cosmetics:

The product is used as an antioxidant and active ingredient in cosmetic preparations containing fat, e.g. creams, ointments, emulsions, body and face oils and decorative cosmetics such as lipstick etc.

Note

DL-alpha-tocopherol must be handled in accordance with the Safety Data Sheet.

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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