TECHNICAL SPECIFICATIONS

Vitapherole® E-1000 Non GMO
(d-alpha tocopherol)

Names

Chemical name: d-alpha tocopherol. Vitamin E. 2R, 4'R, 8'R-alpha-tocopherol
INCI name: tocopherol

General Characterization

Vitapherole E-1000 Non-GMO is a clear amber viscous oil containing d-alpha tocopherol. It is from Non-GMO, IP certified soybean oil and produced through physical and chemical means. The Vitamin E is then diluted in sunflower oil. It is intended for use as Vitamin E in the food and dietary supplement industry.

Identification

<table>
<thead>
<tr>
<th>Name</th>
<th>Empirical formula</th>
<th>Molecular weight</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-alpha tocopherol</td>
<td>C_{29}H_{50}O_{2}</td>
<td>430.69</td>
<td>59-02-9</td>
</tr>
</tbody>
</table>

Standards


Ingredients/Composition

GC method according to IT-02-L

- D-alpha Tocopherol*: 671 mg/g min. (67.1 %) min.
  - Beta-Gamma tocopherol: 0 – 10 mg/g (0 – 1 %)
  - Delta tocopherol: 0 – 2 mg/g (0 – 0.2 %)
- Vegetable oil (sunflower): 329 mg/g max. (32.9 %) max.

*Derived from soybean oil

Quality Control Assay

(Parameters analyzed per batch)

Appearance: Clear, from amber to reddish viscous oil
Taste: Mild, characteristic
Odour: Typical vegetable oil
Colour: Max. 12 Gardner Units
Viscosity (60°C): 90– 180 cP
Specific gravity/Density (25°C): 0.93 – 0.95g/cm³

Last revision: 13.10.16. (Issue 28)
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**Potency:** 1000 I.U/g (min)

**Acidity:** <0.35 ml KOH 0.1N /g (According to EP, USP and ISO 660:2009)

**Benzo (a) pyrene:** < 2 ppb  (As per EC Regulation (EU) 835/2011)

**Sum of Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene and Chrysene:** < 10 ppb  (As per EC Regulation (EU) 835/2011)

(Parameters analyzed periodically based on statistical data)

**Specific rotation:** (α)D° 25. Min. + 24º (for 100% concentration) (As per USP and JECFA)

**Heavy metals:**
- Pb: <0.1ppm
- Hg: <0.1ppm
- Cd: <1ppm
- As: <1ppm


**Microbiological tests:**

*E. Coli:* None cfu/g

*Salmonella:* None cfu/25 g

*Listeria Monocytogenes:* None cfu/10 g

*Shigella:* None cfu/10 g

*Clostridium Perfringens:* None cfu/g

*Staphylococcus Aureus:* None cfu/g

*Enterobacteriaceae:* max 100 cfu/g

*Total Aerobic Count:* max 1000 cfu/g

*Yeast & Moulds:* max 100 cfu/g

**Residual solvents:** In compliance with limits established in EP and USP for Class I solvents. This product meets as well Directive 2009/32/EC.

**Dioxins:**

- **Sum of dioxins** (WHO-PCDD/F-TEQ) 0,75 pg/g fat
- **Sum of dioxins and dioxin-like PCBS** (WHO-PCDD/F-PCB-TEQ) 1, 25 pg/g fat
- **Sum of PCB28, PCB52, PCB101, PCB138, PCB153 and PCB180** (ICES – 6) 40 ng/g fat

(In compliance with Commission Regulation (EU) Nº 1259/2011)


**Properties and Conditions**

**Solubility:** Insoluble in water. Soluble in ethanol, animal fats and vegetable oils, essential and mineral oils. Miscible with organic solvents.

**Stability:** Unstable to light, heat, alkali and oxidizing conditions.

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Storage: Ambient temperature. Nitrogen blanketing and protection from light, moisture and air. Store in tightly closed containers.

Shelf life: 36 months from packaging date (unopened).

Packaging: 20 and 190 kg containers are supplied for this product.

Labelling: All products produced using “Vitapherole® E-1000 Non GMO” may be labelled as “natural source Vitamin E”.

Uses: “Vitapherole® E-1000 Non GMO” is a natural antioxidant widely used in food and cosmetic industries to avoid the negative effects of oxidation.

This product may be added (as a Vitamin) to foods and can be used in the manufacturing of food supplements (mainly soft gelatine capsules) according to Commission Regulation (EC) Nº 1170/2009 and cosmetics as per Regulation (EC) Nº 1223/2009.

This product has not been irradiated at any point during the manufacturing process.

Other information

All orders and samples requested will be sent together with an Analysis Certificate and Material Safety Data Sheet. Contact us through our fax: +34 925 851021; tel: +34 925 851013; e-mail: quality@vitaenaturals.com or through our web-site at: www.vitaenaturals.com and your request will be attended to by our local representative.

All information contained here is intended to be accurate. Anyway, this document is provided for your guidance only. We recommend testing the product for your particular purpose, prior to be used in the industrial process.