

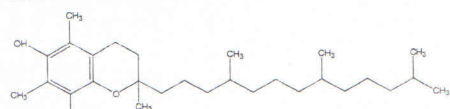
Product Name

Mixed Tocopherols Concentrate 95%

General Product Information

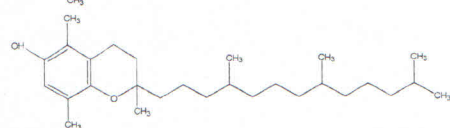
Mixed tocopherols concentrate contains at least 95% natural mixed tocopherols that are derived from vegetable oil deodorizer distillate. The product is a reddish-brown to light yellow, clear oily liquid, suspension with smaller crystalline is permitted, with special taste and smell. Used as antioxidant and nutrient in foods.

Molecular structure

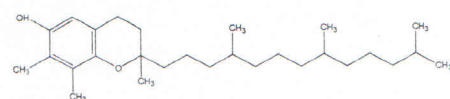


Name	Empirical formula	Mol weight	CAS No.
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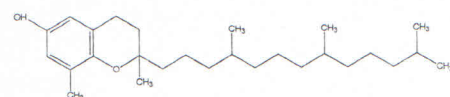
d-alpha-tocopherol	C ₂₉ H ₅₀ O ₂	430.71	59-02-9
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d-beta-tocopherol	C ₂₈ H ₄₈ O ₂	416.68	16698-35-4
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d-gamma-tocopherol	C ₂₈ H ₄₈ O ₂	416.68	54-28-4
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d-delta-tocopherol	C ₂₇ H ₄₆ O ₂	402.65	119-13-1
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Composition

Mixed tocopherols	≥95.0%
Esters	≤5.0%

Specifications

Items	Standard requirements	Method
Total tocopherols	≥95.0%	FCC
D-(β+γ+δ) tocopherols		
In total tocopherols	≥80.0%	FCC
Specific rotation [α] _D ²⁵	≥+20°	FCC
Acidity	≤1.0 ml	FCC
*Benzo(a)pyrene	≤2 ppb	GC-MS
Solvent residue- ethanol	≤5000 ppm	USP<467>
Heavy metals		
Heavy metals(as Pb)	≤10 ppm	USP<231>II
*Lead	≤1 mg/kg	AAS
*Arsenic	≤1 mg/kg	AFS
*Cadmium	≤1 mg/kg	AAS
*Mercury	≤0.1 mg/kg	AFS
*Microbiology		
Aerobic plate count	≤1000 cfu/g	USP<61>
Yeast and moulds	≤100 cfu/g	USP<61>

E-coli	<10 cfu/g	USP<61>
Salmonella	Negative/25g	USP<61>
Staphylococcus aureus	Negative/10g	USP<61>

Remarks: *Tested periodically to ensure the requirements are met.

Solubility

Insoluble in water; soluble in ethanol; miscible with acetone, with chloroform, with ether, and with vegetable oils.

Allergens

Below table indicates the presence of the following allergens and products there of:

Yes	No	Allergens	Description
	x	Wheat	
	x	Other cereals contain gluten	
	x	Crustaceans	
	x	Eggs	
	x	Fish	
	x	Peanuts	
	x	Soybeans	
	x	Milk(including lactose)	
	x	Nuts	
	x	Celery	
	x	Mustard	
	x	Sesame seeds	
	x	Sulphur dioxide and sulphites(>10ppm)	
	x	Lupin	
	x	Molluscs	

According to: (EU) NO 1169/2011 and FDA "FALCPA" .

Packaging, Storage and Shelf Life

20/25/50/200kg steel drum.

Store in tightly closed containers, protect from light and oxygen. After opening, use up immediately or seal with nitrogen for its further storage.

The shelf life in sealed, original containers under normal storage conditions is at least 24 months after date of manufacture. Unstable when exposed to oxygen and light, particularly in the presence of oxidizing agents or in alkaline media. The product darkens slowly upon exposure to air and light.