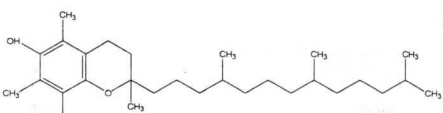
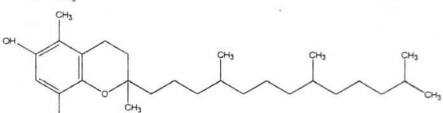
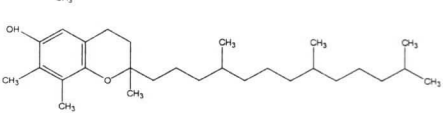
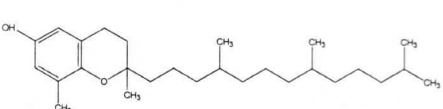


### Product Name

Mixed Tocopherols Concentrate 70%

### General Product Information

Mixed tocopherols concentrate 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.
	d-alpha-tocopherol	C <sub>29</sub> H <sub>50</sub> O <sub>2</sub>	430.71	59-02-9
	d-beta-tocopherol	C <sub>28</sub> H <sub>48</sub> O <sub>2</sub>	416.68	16698-35-4
	d-gamma-tocopherol	C <sub>28</sub> H <sub>48</sub> O <sub>2</sub>	416.68	54-28-4
	d-delta-tocopherol	C <sub>27</sub> H <sub>46</sub> O <sub>2</sub>	402.65	119-13-1

### Formulation Composition

Mixed tocopherols	≥70.0%
Refined vegetable oil	≤30.0%

### Specifications

Items	Standard requirements	Method
Identification		
1 Color reaction	1. Positive	FCC
2 Retention time	2. The principal peak in the chromatogram obtained with the test solution is similar in retention time and size to the principal peak in the chromatogram obtained with reference solution.	
Acidity	≤1.0 ml	FCC
Specific Rotation $[\alpha]_D^{25^\circ}$	≥+20°	FCC
Total Tocopherols	≥70.0%	FCC
d-(β+γ+δ)-tocopherols in total tocopherols	≥80.0%	FCC
*Heavy Metals		
Lead	≤1 mg/kg	AAS
Arsenic	≤1 mg/kg	AFS
Cadmium	≤1 mg/kg	AAS



Mercury	≤0.1 mg/kg	AFS
Solvent residue-Ethanol	≤5000 ppm	USP<467>
*Benzo(a)Pyrene	≤2 ppb	GC-MS
<b>*Microbiology</b>		
Aerobic Plate Count	≤1000 (cfu/g)	USP<61>
Yeast and Molds	≤100 (cfu/g)	USP<61>
Escherichia Coli	Negative/g	USP<62>
Salmonella	Negative/25g	USP<62>
Staphylococcus Aureus	Negative/10g	USP<62>

**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
	×	Wheat	
	×	Other cereals contain gluten	
	×	Crustaceans	
	×	Eggs	
	×	Fish	
	×	Peanuts	
	×	Soybeans	
	×	Milk(including lactose)	
	×	Nuts	
	×	Celery	
	×	Mustard	
	×	Sesame seeds	
	×	Sulphur dioxide and sulphites(>10ppm)	
	×	Lupin	
	×	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.