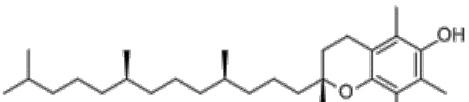
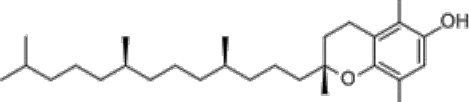
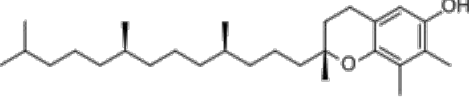
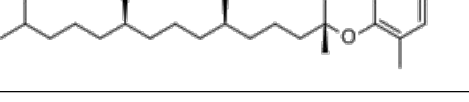


PRODUCT SPECIFICATION

Product Name	Mixed Tocopherols T-50
Product Code	AL00125
INCI Name	Tocopherol mixture
CAS Number	59-02-9, 16698-35-4, 54-28-4, 119-13-1

Description

Mixed Tocopherols is pale yellow to brownish red clear oily liquid with nearly odorless. It is composed of D-alpha tocopherol, D-beta tocopherol, D-gamma tocopherol and D-delta tocopherol. It is derived from natural sources, i.e. soybean oil distillate, and then diluted with edible oil to various contents. It can be used as antioxidant and nutrient in foods, cosmetics and personal care products, also can be used in feed and pet food.

Chemical Structure	Name	Chemical Formula	Molecular Weight	CAS
	D-alpha Tocopherol	$C_{29}H_{50}O_2$	430.71	59-02-9
	D-beta Tocopherol	$C_{28}H_{48}O_2$	416.68	16698-35-4
	D-gamma Tocopherol	$C_{28}H_{48}O_2$	416.68	54-28-4
	D-delta Tocopherol	$C_{27}H_{46}O_2$	402.65	119-13-1

Disclaimer: The details provided here are specific to the identified material and may not remain accurate if that material is combined with other substances or used in different processes. The information presented is, to the best of the company's knowledge, considered precise and trustworthy as of the date mentioned. However, the company does not make any explicit or implied assurance, guarantee, or claim regarding the information's precision, trustworthiness, or comprehensiveness, and will not be held accountable for any losses, damages, or costs, whether direct or indirect, that arise from its use. Users are encouraged to independently verify the appropriateness and thoroughness of this information for their specific purposes.

PRODUCT SPECIFICATION

Physical & Chemical Data

Color	Pale yellow to brownish red
Odor	Nearly odorless
Appearance	Clear oily liquid
Identification	
A: Chemical reaction with HNO ₃	Positive
B: Main peak in GC	The retention time of the principal peak in the test solution conforms to which in the reference solution

Analytical Quality

Acidity	≤	1.0mL
Residue on Ignition	≤	0.1%
Specific Gravity (25°C)		0.92g/cm ³ - 0.96g/cm ³
Optical Rotation[α]	≥	+20°

Assay: Total tocopherols 50.0%, 70.0%, 90.0%, 95.0%

The percentage of D-(beta+gamma+delta) tocopherols in total tocopherols ≥80% Particularly,

D-alpha tocopherol	< 20.0%
D-beta tocopherol	< 10.0%
D-gamma tocopherol	50.0 - 70.0%
D-delta tocopherol	10.0 - 30.0%

Analytical Quality

Lead(Pb)	≤	1.0ppm
Arsenic(As)	≤	1.0ppm
Cadmium(Cd)	≤	1.0ppm
Mercury(Hg)	≤	0.1ppm
B(a)p	≤	2.0ppb
PAH4	≤	10.0ppb

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PRODUCT SPECIFICATION

Microbiological

Total Aerobic Microbial Count	≤	1000cfu/g
Total Yeasts and Molds Count	≤	100cfu/g
E. coli		Negative/10g

Standards

Produced under ISO9001, cGMP, FSSC22000 and IP (NON-GMO) System.
Mixed Tocopherols is certified Kosher and Halal.
FOOD Grade

Storage

The product may be stored for 24 months at room temperature. It shall be stored in tightly closed containers at room temperature, and protected from heat, light, moisture and oxygen.

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