

SPECIFICATION

Product Name: Vitamin D3 40 MIU IP Grade
Chemical Formula: C ₂₇ H ₄₄ O
CAS Number: 67-97-0
Molecular Weight: 384.64 g/mol
Appearance: A white crystalline powder
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min./Max.)
Identification: Infrared absorption	-	Complies	Infra-red absorption spectrum of test sample shall be in concordant with the reference spectrum of cholecalciferol standard.
Specific optical rotation	°	107°	105 to 112°
Light absorption at 265nm of 0.001% solution in ethanol	-	0.48	0.46 to 0.50
7- Dehydrocholesterol	-	Complies	In the chromatogram obtained with the test solution any violet spot with an RF value slightly lower than that of the principal spot (due to 7- Dehydrocholesterol and appearing slowly) shall not be more intense than the spot in the chromatogram obtained with reference solution (a).
HPLC	%	100.0%	97.0 to 103.0%
Methanol	PPM	33.79 PPM	Max. 1000 PPM
Ethanol	PPM	<10.00 PPM	Max. 1000 PPM
Pyridine	PPM	<4.00%	Max. 100 PPM
Methyl Formate	PPM	111.44 PPM	Max. 1000 PPM

Petroleum ether	PPM	<2.00 PPM	Max. 290 PPM
Acetone	PPM	10.10 PPM	Max. 1000 PPM
Benzene	PPM	<0.2 PPM	Max. 2 PPM

Physical Properties

- Solubility: Insoluble in water. Soluble in ethanol. Soluble in acetone. Soluble in methanol. Soluble in ether.

Shelf Life & Storage

- Shelf Life: 3 years from date of manufacture under recommended storage.
- Storage Conditions: Store in a cool, dry, and well-ventilated place at 15–25°C. Keep the container tightly closed and protect from light, heat, moisture, and air. Store in the original container away from direct sunlight.

Applications

- Use: Widely used as a vitamin D supplement to prevent and treat vitamin D deficiency. It enhances the absorption of calcium and phosphorus, supporting healthy bones, teeth, muscle function, and immune health. It is widely used as an active ingredient in pharmaceutical, nutraceutical, and dietary supplement formulations.
- Dosage: Depends on the intended formulation and medical indication. It should be used according to the recommended formulation requirements or as directed by a qualified healthcare professional. The appropriate dosage varies based on age, health status, and the severity of vitamin D deficiency.

Packaging

- Standard Packing: 1 Kgs Pack and 100 Gram or as per customer requirement.
- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.
* Specifications are based on the manufacturer's provided specifications.