CHOLECALCIFEROL  
Sigma Prod. No. C9756

CAS NUMBER: 67-97-0  
SYNONYM: Vitamin D₃

PHYSICAL PROPERTIES:

Appearance: White to white with a yellow cast powder  
Molecular Formula: C₂₇H₄₄O  
Formula Weight: 384.6  
\( E^\text{nm} (265\text{nm}) = 18.2 \) (Hexane or ethanol)¹

METHOD OF PREPARATION:

Our supplier has indicated that this product is prepared from cholesterol extracted from the lanolin of sheep’s wool. Cholesterol is converted to 7-dehydrocholesterol then treated with UV light to produce cholecalciferol which is then crystallized.

STABILITY / STORAGE AS SUPPLIED:

Cholecalciferol C9756 is packaged under argon gas. If it is stored unopened at 2-8°C and protected from light, this product should be stable for a minimum of two to three years. Unused portions should be stored under nitrogen or argon gas. Deterioration is negligible after storage of one year in amber-evaculated ampules at refrigerator temperatures.² It is oxidized and inactivated by moist air within a few days.²

SOLUBILITY / SOLUTION STABILITY:

Sigma tests the solubility in ethanol at 50 mg/ml yielding a clear colorless solution.

Soluble in ethanol, acetone, ether, chloroform; insoluble in water.³ Practically insoluble in water: soluble in the usual organic solvents; slightly soluble in vegetable oils.² Solutions in propylene glycol or corn oil retain their potency over long periods of time at 40°C.⁴ Solutions in volatile solvents are unstable and should be used immediately.⁵
GENERAL INFORMATION:

Vitamin D₃ is the naturally occurring form of vitamin D₃. Vitamin D₃ mediates intestinal calcium absorption, bone metabolism, and probably muscle activity. It acts as a hormone precursor since it requires two stages of metabolism: first to 25-hydroxycholecalciferol; then to 1,25-dihydroxycholecalciferol. One unit (U.S.P. or international) is defined as the activity of 0.025 ug of vitamin D₃ contained in the U.S.P. vitamin D reference standard.

REFERENCES:


Sigma warrants that its products conform to the information contained in this and other Sigma–Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.