

Technical Data Sheet (TDS)

1. Product Overview

Product Name: Cholecalciferol (Vitamin D3) **English Name:** Cholecalciferol **CAS Number:** 67-97-0 **Formula:** C₂₇ H₄₄O **Molecular Weight:** 384.64 g/mol **Product Characteristics:** Natural fat-soluble vitamin, white odorless crystalline powder, insoluble in water, soluble in organic solvents and vegetable oils. It is a biologically active form of vitamin D, which effectively promotes the absorption of calcium and phosphorus in the body, regulates calcium and phosphorus metabolism, and maintains bone health. Sensitive to light, heat and oxygen, easy to decompose and lose activity, stable under dark and low-temperature sealed conditions.

2. Technical Specifications

Appearance: White crystalline powder; Assay: ≥98.0%; Melting Point: 84~88°C; Loss on Drying: ≤0.5%; Residue on Ignition: ≤0.1%; Heavy Metals (Pb): ≤10 ppm; Heavy Metals (As): ≤2 ppm; Related Substances: ≤1.0%; Optical Rotation (25°C, C=1 in ethanol): +105° ~ +112°; Solubility: Insoluble in water, soluble in ethanol, chloroform, ether and vegetable oils.

3. Product Advantages

1. **High Purity & Bioactivity:** Assay up to 99.4%, high biological activity, easy to be absorbed and utilized by human and animal bodies.
2. **Stable Quality:** Strict production quality control, low impurity content, stable efficacy under recommended storage conditions.
3. **Good Compatibility:** Soluble in most organic solvents and vegetable oils, compatible with fat-soluble raw material systems, easy to formulate and apply.
4. **Safe & Reliable:** Non-toxic at normal dosage, compliant with international food, pharmaceutical and feed additive safety standards, no side effects.
5. **Versatile Application:** Adapt to pharmaceutical, food, feed and cosmetic fields, with obvious effect of calcium and phosphorus metabolism regulation.

4. Application Fields

1. **Pharmaceutical Industry:** Raw material for vitamin D3 deficiency drugs, calcium supplement preparations, used for treating rickets, osteomalacia and other bone diseases.
2. **Food Industry:** Natural food fortifier, added to dairy products, cereals, vegetable oils, health foods to supplement vitamin D3.
3. **Feed Industry:** Core feed additive for livestock, poultry and aquatic products, promoting bone development, improving reproductive performance and immunity.
4. **Cosmetic Industry:** Added to skin care products, promoting skin calcium metabolism, improving skin barrier function and anti-aging effect.

5. Usage Methods

1. **Pharmaceutical Use:** Formulated into soft capsules, tablets, oral liquids according to pharmaceutical preparation processes, dosage following national pharmacopoeia and drug standard requirements.
2. **Food Fortification:** Dissolve in oil phase first, then add to food production process, addition amount 0.5~2 µg/100g (adjust according to national food fortification regulations).



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

3. **Feed Addition:** Dilute with vegetable oil or corn starch to make premix, addition amount 50~200 IU/kg of feed, mix uniformly with feed raw materials.
4. **Cosmetic Application:** Dissolve in oil phase during preparation, add to cream, lotion, serum, addition amount 0.001~0.01% (w/w), avoid high temperature processing (>80°C).

6. Packaging & Storage

1. **Packaging Specifications:** 100g brown glass bottle, 500g brown glass bottle, 1kg brown glass bottle, 5kg aluminum foil bag, 25kg sealed drum (custom packaging available upon request).
2. **Storage Conditions:** Store in a cool, dark, sealed warehouse, temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$. Avoid direct sunlight, high temperature (>60°C) and contact with oxygen. Keep away from oxidants and strong acids/bases.
3. **Shelf Life:** 24 months (unopened, under specified storage conditions); the product after opening should be used up within 1 month and sealed tightly after each use.
4. **Transportation:** Non-hazardous goods, transport with sealed light-shielding packaging, avoid collision, sunlight exposure and high temperature during transportation. Separate from strong oxidants and corrosive substances.

7. Safety & Protection

1. The product is non-toxic at normal dosage, avoid direct contact with eyes and mucous membranes in large quantities.
2. Wear nitrile rubber gloves, safety glasses and dust mask during large-scale handling and weighing operations to prevent dust inhalation and eye contact.
3. In case of eye contact, rinse thoroughly with plenty of running water for 5~10 minutes; consult a doctor if irritation persists.
4. If accidentally swallowed in large amounts, rinse mouth with water and seek medical advice if abdominal discomfort occurs.

8. Quality Assurance

1. The product is manufactured in accordance with ISO 9001 quality management system standards, with complete production and testing records.
2. Each batch of product is tested by professional laboratories and accompanied by a Certificate of Analysis (COA) to ensure compliance with industrial standards.
3. Provide one-stop technical support, including formula design, dosage adjustment, quality control guidance for different application fields.