



NEWAY SINOPHC TECH. LIMITED

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Technical Data Sheet (TDS)

1. Product Overview

Product Name: Retinol (Vitamin A)**English Name:** Retinol**CAS Number:** 68-26-8**Formula:**

$C_{20}H_{30}O$ **Molecular Weight:** 286.45 g/mol**Product Characteristics:** Natural fat-soluble vitamin, yellow to orange crystalline powder with a slight characteristic odor, insoluble in water, soluble in organic solvents and vegetable oils. It is a core active substance for maintaining normal vision, epithelial tissue health and bone development, with strong antioxidant activity. Sensitive to light, heat and oxygen, easy to oxidize and decompose, stable under dark, low-temperature and sealed anaerobic conditions.

2. Technical Specifications

Assay $\geq 98.0\%$; Appearance: Yellow to orange crystalline powder; Melting Point 62~64°C; Loss on Drying $\leq 0.5\%$; Residue on Ignition $\leq 0.1\%$; Heavy Metals (Pb) ≤ 10 ppm; Heavy Metals (As) ≤ 2 ppm; Related Substances $\leq 1.0\%$; Optical Rotation (25°C, C=1 in ethanol) +25° ~ +30°; Solubility: Insoluble in water, soluble in ethanol, chloroform, ether and vegetable oils; Antioxidant Activity: $\geq 95\%$ (relative to standard retinol).

3. Product Advantages

1. **High Purity & Bioactivity:** Assay up to 99.1%, 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. **Strong Antioxidant:** Scavenges free radicals, inhibits lipid peroxidation, and has anti-aging and cell protection effects.
4. **Good Compatibility:** Soluble in most organic solvents and vegetable oils, compatible with fat-soluble raw material systems, easy to formulate.
5. **Safe & Compliant:** Non-toxic at normal dosage, compliant with international food, pharmaceutical and cosmetic safety standards.

4. Application Fields

1. **Pharmaceutical Industry:** Raw material for vitamin A deficiency drugs, used for treating night blindness, xerophthalmia and epithelial tissue damage.
2. **Food Industry:** Natural food fortifier, added to dairy products, cereals, vegetable oils and health foods to supplement vitamin A.
3. **Cosmetic Industry:** Core anti-aging ingredient in skin care products, promotes skin cell regeneration, improves fine lines and rough skin.
4. **Feed Industry:** Feed additive for livestock and poultry, promotes animal growth and development, improves reproductive performance and immunity.

5. Usage Methods

1. **Pharmaceutical Use:** Formulated into soft capsules, tablets and oral liquids according to pharmaceutical preparation processes, dosage following national pharmacopoeia standards.
2. **Food Fortification:** Dissolve in oil phase first, add to food production process, addition amount 0.2~1.0 mg/100g (adjust according to national food fortification regulations).



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3. **Cosmetic Application:** Dissolve in oil phase during preparation, add to cream, lotion, serum, addition amount 0.01~0.1% (w/w), avoid high temperature processing (>70°C) and direct sunlight.
4. **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.

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 anaerobic warehouse, temperature ≤20°C, relative humidity ≤55%. Avoid direct sunlight, high temperature (>60°C), oxygen and moisture. 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 2 weeks and filled with nitrogen for sealing.
4. **Transportation:** Non-hazardous goods, transport with sealed light-shielding and moisture-proof 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 respiratory tract in large quantities.
2. Wear nitrile rubber gloves, safety glasses, dust mask and protective clothing 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 and ISO 14001 quality and environmental 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 and quality control guidance for different application fields.