

Technical Data Sheet (TDS)

1. Product Overview

Product Name: Testosterone **English Name:** Testosterone **CAS Number:** 58-22-0 **Molecular Formula:** C₁₉ H₂₈ O₂ **Molecular Weight:** 288.42 g/mol **Product Characteristics:** Endogenous anabolic-androgenic steroid, the primary male sex hormone. White to off-white crystalline powder, odorless, slightly soluble in water, soluble in ethanol, chloroform and vegetable oils. Stable under recommended storage conditions, with strong androgenic and anabolic activity, promoting protein synthesis, muscle growth and secondary sexual characteristic development. High purity, consistent quality, suitable for pharmaceutical formulation and scientific research.

2. Technical Specifications (Complies with Industrial Standards)

Appearance: White to off-white crystalline powder **Assay (HPLC):** ≥ 98.5% **Melting Point:** 153-157°C **Loss on Drying:** ≤ 0.5% **Residue on Ignition:** ≤ 0.1% **Heavy Metals (Pb):** ≤ 10 ppm **Heavy Metals (As):** ≤ 2 ppm **Related Substances (Total):** ≤ 1.0% **Optical Rotation (c=1, ethanol, 25°C):** +101° to +107° **Solubility:** Slightly soluble in water, soluble in ethanol/chloroform, miscible in vegetable oils **Storage Stability:** Stable for 24 months at 2-8°C (sealed, dark condition) **pH Value:** 5.0-7.0 (1% suspension in water)

3. Product Advantages

1. High Purity: Assay ≥98.5%, low impurity content, batch-to-batch consistency.
2. Natural Bioactivity: Endogenous steroid structure, high biological potency and compatibility.
3. Good Stability: Long shelf life under recommended storage, no easy degradation.
4. Versatile Solubility: Soluble in common organic solvents and vegetable oils, suitable for multiple formulation types.
5. Standardized Production: Manufactured in line with ISO 9001 standards, complete testing data and quality assurance.

4. Application Fields

- Pharmaceutical Industry: Raw material for human and veterinary pharmaceutical formulations (for hypogonadism, muscle wasting, osteoporosis treatment).
- Research & Development: Laboratory research on steroid hormone mechanism, anabolic-androgenic activity testing, new drug development.
- Fine Chemicals: Intermediate for the synthesis of testosterone derivatives and modified AAS products.

5. Usage Methods

- Pharmaceutical Formulation: Dissolve in vegetable oil (sesame oil/cottonseed oil) or organic solvent according to formulation requirements, prepare injectable formulations, tablets or creams; adjust concentration and dosage based on drug specifications.
- Research Use: Prepare standard solutions with ethanol (1-10 mg/mL) for laboratory tests, dosage determined by research protocol.
- Note: Strictly follow national pharmaceutical regulations for use, only for industrial and research purposes, no unauthorized use.

6. Packaging & Storage



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Packaging Specifications:

- 100 g/bottle (HDPE bottle with aluminum foil seal)
- 500 g/bottle (HDPE bottle with aluminum foil seal)
- 1 kg/tin can (sealed tin can with inner plastic bag)
- 5 kg/fiber drum (sealed fiber drum with inner plastic bag)
- Custom packaging available upon request.

Storage Conditions:

- Store in a cool, dry, dark place at 2-8°C, keep the container tightly sealed to avoid moisture and light.
- Keep away from heat, open flame, strong oxidizing agents, strong acids and strong bases.
- Store separately from food, beverages, aquatic products and raw materials for edible use.**Shelf Life:** 24 months (unopened, under specified storage conditions).**Transportation:** Non-hazardous for transport under sealed condition; avoid high temperature, sunlight and collision during transportation.

7. Safety & Protection

- Avoid direct skin contact and dust inhalation during handling; wear protective equipment for large-scale operation.
- Wear nitrile rubber gloves, safety glasses and dust mask for prolonged or large-volume handling.
- In case of skin contact: Rinse the affected area with plenty of soap and water; remove contaminated clothing and wash before reuse.
- In case of eye contact: Rinse eyes thoroughly with plenty of running water for 10-15 minutes; consult a doctor if irritation persists.
- Do not ingest; if accidentally swallowed, rinse mouth with water and seek medical advice immediately.

8. Quality Assurance

- The product is manufactured in accordance with ISO 9001 quality management system standards.
- Each batch of product is fully tested and accompanied by a Certificate of Analysis (COA) to ensure compliance with industrial standards.
- Provide professional technical support for product application, including formulation optimization and usage guidance.
- Undertake quality responsibility for qualified products under normal storage and use conditions.