

## Technical Data Sheet (TDS) - Altrenogest

**Revision Date:** 26 FEB 2026

### Product Name

Altrenogest 阿尔特雷诺杰斯特 **CAS Number:** 850-52-2 **MDL Number:** MFCD00057361 **Formula:** C<sub>19</sub> H<sub>24</sub>O<sub>2</sub> **Molecular Weight:** 284.39 g/mol **Form:** White to off-white crystalline powder

### 1. Product Overview

Altrenogest is a high-purity pharmaceutical/veterinary grade **synthetic progestogen** (19-nortestosterone derivative), a highly potent progestational agent with strong progestogenic activity and weak androgenic activity. It exerts its pharmacological effect by binding to progesterone receptors in the reproductive system of animals, inhibiting follicular development and ovulation, regulating the estrous cycle, and maintaining pregnancy. As a stable crystalline powder, it has excellent solubility in organic solvents and stable physical and chemical properties under recommended storage conditions. It is the core raw material for veterinary pharmaceutical preparations, exclusively used for the estrus synchronization and cycle regulation of female livestock (horses, pigs, cattle, etc.).

### 2. Technical Specifications (Complies with USP 45 & Veterinary Pharmaceutical Standard)

Item	Specification
Appearance	White to off-white crystalline powder, no caking
Melting Point	140 ~ 146°C
Purity (HPLC)	≥ 99.0%
Related Substances (total)	≤ 0.5%
Loss on Drying	≤ 0.5%
Residue on Ignition	≤ 0.1%
Specific Rotation (25°C, CHCl <sub>3</sub> )	+21° ~ +27°
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Chloride Content	≤ 0.01%
Sulfate Content	≤ 0.01%
Assay (on dry basis)	98.0 ~ 102.0%
Solubility	Soluble in chloroform, ethanol, acetone; slightly soluble in ether; insoluble in water
Stability	Stable at 0~30°C (purity retention ≥98% for 24 months)
Photostability	Stable under protected light; avoid direct strong sunlight

### 3. Product Advantages

- High Potency:** Strong progestogenic activity, low effective dosage, obvious estrus synchronization effect for livestock.
- High Purity:** HPLC purity ≥99.0%, low related substances, no toxic impurities, meeting strict veterinary pharmaceutical standards.
- Good Stability:** Crystalline powder form with excellent chemical stability, no degradation under normal storage conditions, long shelf life.
- Good Formulability:** Soluble in common organic pharmaceutical solvents, suitable for preparation of oral solutions, suspensions and pre-mixes.
- Clear Pharmacology:** Explicit mechanism of action, accurate regulation of animal reproductive cycle, high clinical success rate.
- Compliant with Global Standards:** Meets USP 45, EU EP 10 and Chinese veterinary drug standards, supporting global veterinary drug registration.

### 4. Application Fields



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- **Veterinary Pharmaceutical Production:** Core raw material for altrenogest oral solutions, premixes and slow-release preparations (main specifications: 0.22% oral solution for horses, 0.04% premix for pigs).
- **Livestock Reproduction Regulation:**
  - Estrus synchronization of mares, sows, dairy cows and beef cattle, unified breeding and improve breeding efficiency.
  - Inhibition of abnormal estrus in female livestock, reduction of reproductive disorders.
  - Auxiliary regulation of pregnancy maintenance in high-value breeding livestock (under veterinary guidance).
- **Veterinary R&D:** Reproductive physiology research of livestock, progesterone drug screening, preclinical animal model research.

## 5. Usage Methods

### Pharmaceutical Formulation (GMP Veterinary Drug Production)

- **Solubilization & Preparation:** Dissolve the crystalline powder with ethanol/propylene glycol (1:5 w/v) first, then dilute with purified water/glycerol to the target concentration; add appropriate suspending agent/thickener for suspension preparation.
- **Common Formulation Concentration:**
  - Mare oral solution: 0.22% (2.2 mg/mL)
  - Sow premix: 0.04% (400 µg/g)
- **Stability After Formulation:** The prepared oral solution is stable for 12 months at 2~8°C; premix is stable for 24 months at room temperature (0~30°C).

### R&D Usage

- In vitro experiment: 1~10 µmol/L for progesterone receptor binding assay; 5~20 µmol/L for ovarian cell culture experiment.
- In vivo animal experiment: 0.01~0.1 mg/kg body weight (oral administration for mice/rats); adjust dosage according to animal species and research purpose.

## 6. Packaging & Storage

### Packaging Specifications

- 100 g / brown glass bottle (nitrogen-filled, sterile, R&D/clinical trial use)
- 1 kg / brown glass bottle (nitrogen-filled, sterile, small-scale veterinary drug production)
- 5 kg / HDPE plastic drum (nitrogen-filled, light-proof, industrial production)
- 25 kg / fiber drum (lined with aluminum foil, nitrogen-filled, bulk veterinary drug production)
- Custom sterile nitrogen-filled packaging available for veterinary drug manufacturers (GMP-compliant).

### Storage Conditions

- **Core Requirement:** Store in a **cool, dry, light-proof warehouse** at 0~30°C; strictly avoid high temperature (>60°C) and direct strong sunlight.
- Keep the container tightly sealed and nitrogen-filled to prevent moisture absorption and oxidation; store in original brown glass/light-proof packaging.
- Store separately from strong acids, strong bases, oxidizing agents, reducing agents and food raw materials; no mixed storage with other veterinary drugs without isolation.

## 7. Safety & Protection

- The product is a veterinary pharmaceutical raw material, for professional GMP production/veterinary R&D use only; not for human use, not for direct administration to animals without formulation.
- Wear **chemical safety goggles, nitrile rubber gloves and protective clothing** during handling and solubilization; wear a dust mask in poorly ventilated areas to avoid inhalation of powder dust.
- **Skin Contact:** Rinse the affected area with plenty of running water and soap for 5~10 minutes; mild irritation may occur in sensitive individuals, no special treatment for most cases.