

## Technical Data Sheet (TDS)

### 1. Product Overview

**Product Name:** Aldosterone **English Name:** Aldosterone **CAS Number:** 52-39-1 **Molecular Formula:**  $C_{21}H_{28}O_5$  **Molecular Weight:** 360.44 g/mol **Product Characteristics:** Endogenous mineralocorticoid hormone, the most potent steroid hormone regulating water and electrolyte balance in the human body. White to off-white crystalline powder, slightly soluble in water, soluble in ethanol, chloroform and organic solvents. Stable under recommended low-temperature storage conditions, with strong sodium-retaining and potassium-excreting activity, regulating renal tubular reabsorption and maintaining blood volume and blood pressure balance. High purity, stable biological activity, core raw material for endocrinology pharmaceutical research and formulation.

### 2. Technical Specifications (Complies with Industrial Standards)

Appearance: White to off-white crystalline powder Assay (HPLC):  $\geq 98.0\%$  Melting Point: 170-175°C (decomposes) Loss on Drying:  $\leq 0.5\%$  Residue on Ignition:  $\leq 0.1\%$  Heavy Metals (Pb):  $\leq 10$  ppm Heavy Metals (As):  $\leq 2$  ppm Related Substances (Total):  $\leq 1.5\%$  Related Substances (Single):  $\leq 0.5\%$  Optical Rotation (c=0.5, ethanol, 25°C): +132° to +139° Solubility: Slightly soluble in water, soluble in ethanol/chloroform/DMSO Storage Stability: Stable for 24 months at -20°C (sealed, dark, vacuum condition) pH Value: 5.0-7.0 (0.1% suspension in water)

### 3. Product Advantages

1. High Purity & Low Impurity: Assay  $\geq 98.0\%$ , ultra-low single and total related substances, meeting pharmaceutical grade raw material standards.
2. High Bioactivity: Endogenous hormone structure, consistent with human physiological characteristics, high biological potency and action specificity.
3. Good Stability: Long shelf life under low-temperature vacuum storage, no easy degradation and activity loss.
4. Versatile Solubility: Soluble in common organic solvents, suitable for injectable formulation and in vitro research solution preparation.
5. Standardized Production: Manufactured in line with ISO 9001 quality management system, complete testing data and strict quality control for each batch.

### 4. Application Fields

- Pharmaceutical Industry: Raw material for human pharmaceutical formulations (primary aldosteronism research, adrenal cortex insufficiency treatment, electrolyte imbalance correction).
- Research & Development: Laboratory research on mineralocorticoid hormone mechanism, renal function research, steroid hormone receptor binding test, new drug screening for hypertension and endocrine diseases.
- Fine Chemicals: Intermediate for the synthesis of aldosterone derivatives and modified mineralocorticoid products.

### 5. Usage Methods

- Pharmaceutical Formulation: Dissolve in anhydrous ethanol or propylene glycol according to formulation requirements, prepare injectable formulations with physiological saline dilution; adjust concentration and dosage based on clinical needs and drug specifications.

- Research Use: Prepare standard solutions with DMSO/ethanol (0.1-1 mg/mL) for laboratory tests, the specific dosage is determined by the research protocol; store the prepared solution at 2-8°C and use it as soon as possible.
- Note: Strictly follow national pharmaceutical regulations and professional experimental guidelines for use, only for industrial and research purposes, no unauthorized clinical use.

## 6. Packaging & Storage

### Packaging Specifications:

- 10 g/bottle (brown glass bottle with rubber stopper, aluminum seal, vacuum)
- 50 g/bottle (brown glass bottle with rubber stopper, aluminum seal, vacuum)
- 100 g/bottle (brown glass bottle with rubber stopper, aluminum seal, vacuum)
- Custom packaging available upon request (small volume for research).

### Storage Conditions:

- Store in a low-temperature freezer at -20°C, keep the container tightly sealed, vacuum and protected from light to avoid moisture and oxidation.
- Keep away from heat, open flame, strong oxidizing agents, strong acids and strong bases.
- Store separately from other chemical reagents and food raw materials. **Shelf Life:** 24 months (unopened, under specified -20°C storage conditions); 3 months after opening (stored at 2-8°C, sealed). **Transportation:** Use cold chain transport at -20°C, with insulated packaging and ice pack; avoid direct sunlight, high temperature and collision during transportation.

## 7. Safety & Protection

- The product is a potent endogenous hormone, avoid direct skin contact, dust inhalation and accidental ingestion during handling.
- Wear nitrile rubber gloves, safety glasses, dust mask and protective clothing for all handling operations.
- In case of skin contact: Rinse the affected area with plenty of soap and water for at least 10 minutes; remove contaminated clothing and wash before reuse.
- In case of eye contact: Rinse eyes thoroughly with plenty of running water for 15 minutes, lifting the upper and lower eyelids occasionally; consult a doctor immediately 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 and pharmaceutical raw material production specifications.
- Each batch of product is fully tested by professional laboratories and accompanied by a Certificate of Analysis (COA) to ensure compliance with industrial standards.
- Provide professional technical support for product application, including solubility guidance, solution preparation and storage condition optimization.
- Undertake quality responsibility for qualified products under normal storage and use conditions.