

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Salvia Miltiorrhiza Extract
- English Name: Salvia Miltiorrhiza Extract (Red Sage Root Extract)
- CAS Number: 90056-22-1
- Formula: Blend of Natural Salvia Miltiorrhiza Active Ingredients (Salvianolic Acid B, Tanshinone IIA, Danshensu)
- Molecular Weight: Variable (300-8000 Da)
- Product Characteristics: Natural plant extract from high-quality salvia miltiorrhiza root via water-alcohol extraction and purification; light brown fine amorphous powder with mild characteristic fragrance; high content of salvianolic acid B ($\geq 10\%$) and tanshinone IIA ($\geq 2\%$), rich in bioactive phenolic acids and diterpenoid quinones. Non-toxic, non-irritating, fully biodegradable; stable under recommended storage conditions, with obvious biological activity. Suitable for health food, cosmetics, pharmaceutical intermediates and functional food production.

2. Technical Specifications (Complies with Plant Extract Industrial Standards)

| Item | Specification |
|--------------------------------------|---|
| Appearance | Light brown to dark brown fine amorphous powder |
| Odor | Mild natural salvia miltiorrhiza characteristic fragrance |
| Salvianolic Acid B Content (HPLC) | $\geq 10.0\%$ |
| Tanshinone IIA Content (HPLC) | $\geq 2.0\%$ |
| pH Value (1% aqueous solution, 25°C) | 5.0-7.0 |
| Loss on Drying | $\leq 5.0\%$ |
| Ash Content | $\leq 5.0\%$ |
| Heavy Metals (Pb) | ≤ 5 ppm |
| Heavy Metals (As) | ≤ 1 ppm |
| Total Bacterial Count | ≤ 100 CFU/g |
| E. coli | Negative |
| Salmonella | Negative |
| Particle Size | 95% passing 80 mesh |
| Water Solubility | Slightly soluble in water; freely soluble in 70% ethanol |
| Storage Stability | 24 months (unopened, $\leq 25^\circ\text{C}$, RH $\leq 60\%$) |

3. Product Advantages

1. **High Active Ingredient Content:** Salvianolic Acid B $\geq 10\%$ and Tanshinone IIA $\geq 2\%$, rich in multiple bioactive substances; high extraction purity and guaranteed product efficacy.
2. **Natural & Safe:** Extracted from natural salvia miltiorrhiza root, no chemical additives, pesticide residue free, heavy metal up to standard; compliant with FDA GRAS and EU food supplement standards.
3. **Stable Quality:** Strict quality control during extraction and purification; batch-to-batch consistency is good; stable under dry and low-temperature storage conditions (24-month shelf life).
4. **Good Processability:** Fine powder, good fluidity and anti-caking property; easy to mix with other raw materials; soluble in ethanol and slightly soluble in water, suitable for various formulation processes.

5. **Environmentally Friendly:** Water-alcohol green extraction process; no waste water and gas pollution; product is fully biodegradable, no environmental impact.
6. **Multi-functional:** With multiple biological effects; can be used in multiple fields such as food, cosmetics and pharmaceuticals.

4. Application Fields

- **Health Food & Dietary Supplements:** Production of salvia miltiorrhiza capsules, tablets, oral liquids, granules; used as a functional additive for cardiovascular and cerebrovascular health care, blood circulation improvement.
- **Cosmetics:** Raw material for skin care products (facial cream, serum, mask); with anti-oxidation, anti-aging, blood circulation promotion and skin repair effects.
- **Pharmaceutical Intermediates:** Raw material for Chinese and Western medicine preparations; auxiliary treatment for cardiovascular and cerebrovascular diseases, blood stasis syndrome.
- **Functional Food:** Additive for health drinks, solid beverages, cereal products; improve product nutritional and functional value.
- **Animal Feed Additive:** High-end feed additive for livestock and poultry; improve animal cardiovascular health and immunity (small amount application).

5. Usage Methods

- **Dosage (Adjust according to application field and product specification):**
 - Health Food: 0.5-2.0% of the total formula (based on pure extract).
 - Cosmetics: 0.1-1.0% of the total formula (suitable for all skin care products).
 - Functional Food: 0.05-0.5% of the total formula.
 - Pharmaceutical Intermediates: Determined according to drug preparation process and clinical requirements.
- **Addition Method:**
 - Mix with water-soluble excipients (maltodextrin, lactose) first for water-based formulation; dissolve in 70% ethanol first then add to oil-based formulation.
 - Stir evenly at 20-35°C; avoid high temperature (>60°C) during mixing to prevent active ingredient degradation.
- **Optimal Conditions:** Process in a cool, dry and dust-free environment; avoid direct sunlight and high humidity during formulation.

6. Packaging & Storage

- **Packaging Specifications:**
 - 1 kg/bag (aluminum foil vacuum bag, HDPE drum outer packing)
 - 5 kg/drum (HDPE drum with aluminum foil inner lining, sealed)
 - 10 kg/drum (HDPE drum with aluminum foil inner lining, sealed)
 - 25 kg/drum (HDPE drum with aluminum foil inner lining, sealed)
 - Custom small packaging (100g/500g) available for R&D and small-batch production.

7. Safety & Protection

- The product is a natural non-hazardous plant extract, safe for human and animal use in normal dosage.
- Avoid dust inhalation and eye contact during large-scale handling; wear N95 dust mask and safety glasses.

8. Quality Assurance

1. Produced in accordance with ISO 9001 quality management system, ISO 14001 environmental management system and GMP plant extract production standards.
2. Raw material salvia miltiorrhiza is sourced from qualified planting bases; strict inspection of raw materials to ensure no pesticide residue and heavy metal exceeding the standard.
3. Each batch of product is strictly tested by professional laboratory and accompanied by a detailed Certificate of Analysis (COA) with complete test indicators.
4. Provide complete technical documents including MSDS, TDS, raw material inspection report and production process report.