Technical Data Sheet (TDS)

- Disodium Succinate (Food Grade)
Issue Date: 29 FEB 2026 | Version: V1.0

1. Product Overview

- **Product Name**: Disodium Succinate (Food Grade)
- **CAS Number**: 150-90-3
- **EINECS/EC Number**: 205-771-9
- **Chemical Formula**: $C_4H_4Na_2O_4$
- **Molecular Weight**: 162.05 Da
- **Chemical Name**: Disodium butanedioate / Succinic acid disodium salt
- **Product Characteristics**: High-purity food-grade Disodium Succinate prepared by chemical synthesis and refined purification (food-grade raw materials, meet FCC/USP standards). White free-flowing crystalline powder, odorless with mild umami taste, highly water-soluble, good buffer capacity, and highly stable under normal food processing and storage conditions. As a multi-functional food additive, it acts as **flavor enhancer, umami agent, pH buffer and taste improver**; it enhances food umami and savory flavor, improves taste layering, stabilizes food pH system, and synergizes with other flavor enhancers (MSG/IMP/GMP) to boost flavor effect. Natural metabolite component, non-toxic, easily metabolized by the human body, suitable for all food flavor systems. Environmentally friendly, fully biodegradable, compliant with GB 2760/FDA/EC/CAC/FCC/USP standards, suitable for various food production and processing.
- **Core Application**: Food additive (flavor enhancer/umami agent/buffer) for meat products, seafood, condiments, soups, hot pot base, dairy, beverage, instant food and snack food industries; pH adjuster in food processing.

2. Technical Specifications (Compliant with GB 2760 & FCC/USP)

Item	Standard Requirement
Appearance	White crystalline powder; free-flowing, no caking
Odor/Taste	Odorless, mild umami taste
Assay (Disodium Succinate)	≥ 99.0%
Loss on Drying	≤ 1.0%
pH Value (5% aqueous, 25℃)	7.0-9.0
Heavy Metals (as Pb)	≤ 1 ppm
Arsenic (As)	≤ 0.5 ppm
Cadmium (Cd)	≤ 0.05 ppm
Mercury (Hg)	≤ 0.01 ppm
Chloride (Cl^-)	≤ 0.01%
Sulfate (SO_4^{2-})	≤ 0.01%
Total Bacterial Count	≤ 100 CFU/g
E. coli	Negative
Salmonella	Negative in 25g
Water Solubility (25℃)	≥ 380 g/L (clear aqueous solution)
Bulk Density	0.85-1.05 g/cm³
Temperature Stability	Stable at 0-121℃ (short-time high temp sterilization; ≥98% activity retention)
pH Stability	Stable at pH 6.0-10.0 (≥98% activity retention)
Buffer Capacity	Good (effective in pH 7.0-9.0 food systems)
Storage Stability	36 months unopened (≤25℃, ≤60% RH)

3. Product Advantages

1. **Natural Umami & Flavor Enhancement**: Mild and pure umami taste, no bitter or astringent aftertaste; enhances food umami and savory flavor, improves taste layering and roundness, suitable for various food flavor systems (meat, seafood, vegetable, soup).
2. **High Synergistic Effect**: Synergizes with MSG, IMP, GMP and other flavor enhancers to significantly boost umami effect (can reduce MSG dosage by 30-50% while maintaining the same flavor intensity), reduce production cost.
3. **High Purity & Food Safety**: Assay ≥99.0%, heavy metal content far lower than national/FCC/USP standards; no impurities, no harmful additives; FDA GRAS/EC E363 certified, approved for use in infant food and pregnant women's food.

4. Application Fields & Recommended Dosage

(Adjust dosage according to food type, flavor requirement, synergistic use and product formulation; all dosages are **w/w** based on food raw materials)

Application Field	Typical Products	Recommended	Core Effect
Meat Products	Sausage, ham, meatball,	0.1-0.8%	Enhance umami/savory flavor,
Seafood Products	Frozen seafood, canned	0.05-0.5%	Highlight seafood fresh flavor,
Condiments	Soy sauce, oyster sauce,	0.2-1.0%	Boost umami flavor, improve
Soups & Congees	Instant soup, bone soup,	0.08-0.6%	Enhance soup umami, improve
Dairy Products	Flavored milk, yogurt, cheese,	0.05-0.3%	Improve taste roundness, mask
Beverages	Sports drink, amino acid drink,	0.03-0.2%	Taste improvement, pH
Instant Food	Instant noodles, instant rice,	0.15-0.7%	Enhance seasoning umami,
Snack Food	Potato chips, dried meat, bean	0.05-0.4%	Enhance savory/umami flavor,
Infant Food	Infant formula, complementary	0.02-0.1%	Mild umami, taste improvement,

5. Usage Methods & Formulation Guidelines

1. **Premixing Recommended**: For **solid food systems** (seasoning powder, flour, milk powder, instant food powder), premix Disodium Succinate with other dry ingredients (MSG, salt, starch, protein powder) at a ratio of 1:10-1:20 to ensure uniform dispersion; avoid direct mixing with high-concentration strong acid ingredients.
2. **Dissolution Method**: For **liquid food systems** (beverage, soup, sauce, marinade), dissolve Disodium Succinate in deionized water/liquid raw materials (20-40℃) with stirring (can be prepared as 20-50% stock solution); stir evenly to form a clear solution, then add to the food system (no precipitation); add slowly to avoid local concentration differences.

6. Packaging, Storage & Transportation

- Small Packaging: 1 kg/5 kg food-grade aluminum foil bags (inner PE liner, vacuum sealed; for small food factories/laboratory use)
- Standard Packaging: 25 kg food-grade HDPE plastic drums (sealed, with inner PE bag; for industrial batch production)
- Bulk Packaging: 500 kg/1000 kg food-grade jumbo bags (sealed, dust-proof, moisture-proof; for large food factories/bulk purchase)
- Custom Packaging: Available upon request (100g/500g small packaging for condiment enterprises, specific weight for infant food production).

7. Quality Assurance & Technical Support

1. **Production Standards**: Manufactured in a GMP/HACCP-compliant food-grade production workshop; comply with ISO 9001 (Quality Management System) and ISO 22000 (Food Safety Management System); raw materials are food-grade, synthesis process is environmentally friendly, no harmful byproducts, meet infant food raw material requirements.
2. **Batch Testing**: Every batch of Disodium Succinate is subject to **strict multi-index testing** (physical, chemical, microbiological, purity, pH); a detailed Certificate of Analysis (COA) is provided with each shipment to ensure compliance with GB 2760/FCC/USP/EC standards and infant food safety requirements.