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Technical Data Sheet (TDS)

Issue Date: 27 FEB 2026**Product Name:** Sorbic Acid (Food Grade)**CAS Number:** 110-44-1

1. Product Overview

- **English Name**: Sorbic Acid (Food Grade)
- **Chinese Name**: 山梨酸
- **CAS No.**: 110-44-1
- **Molecular Formula**: $C_6H_8O_2$
- **Molecular Weight**: 112.13 g/mol
- **Source**: Synthesized by food-grade chemical synthesis (propylene aldehyde + malonic acid) or natural extraction (mountain ash berries), followed by high-purity refinement; complies with food GMP and food preservative production requirements.
- **Core Characteristics**: White crystalline powder/flake, slight characteristic odor, sour taste; natural food preservative (unsaturated fatty acid); highly effective against molds, yeasts and some bacteria; effective only in acidic food systems (pH 2.5-6.0); slightly soluble in water, soluble in organic solvents; non-toxic at standard dosages, fully biodegradable; meets national/international food safety standards, the most widely used natural food preservative worldwide.

2. Technical Specifications (Complies with GB 2760-2021 & International Food Preservative Standards)

Test Item	Food Grade Specification
Appearance	White to off-white free-flowing crystalline powder/flake
Assay (Sorbic Acid)	≥ 99.0%
Melting Point	132-136℃
pH Value (25℃, 1% aqueous suspension)	3.0-4.0
Loss on Drying (105℃, 2h)	≤ 0.5%
Ash Content	≤ 0.1%
Heavy Metals (Pb)	≤ 1 ppm
Arsenic (As)	≤ 0.5 ppm
Cadmium (Cd)	≤ 0.1 ppm
Mercury (Hg)	≤ 0.01 ppm
Residue on Ignition	≤ 0.1%
Total Bacterial Count	≤ 100 CFU/g
Yeast & Mold	≤ 10 CFU/g
E. coli / Salmonella	Negative
Solubility	Slightly soluble in water (≈1.6 g/L at 25℃), soluble in ethanol/propylene glycol
Temperature Stability	Stable at 0-121℃ (assay retention ≥99%)
pH Stability	Effective & stable at pH 2.5-6.0 (decomposes at pH >8.0)
Hygroscopy	Slightly hygroscopic

3. Core Product Advantages

1. **Natural & High Safety**: Natural preservative (extracted from mountain ash berries), FAO/WHO ADI 0-25 mg/kg body weight; metabolized to CO_2 and water in human body (no residual); no mutagenicity/carcinogenicity; safe for infants, pregnant women and the elderly at standard dosages.
2. **High Antimicrobial Efficacy**: Highly effective against molds, yeasts and gram-positive bacteria (the main spoilage microorganisms in food); low dosage achieves good preservation effect; no effect on food original flavor and nutritional components.

3. **Acid System Specialization**: Optimal efficacy in acidic food systems (pH 2.5-6.0); matches the pH of most foods (beverage, bakery, pickles); the most suitable preservative for acidic food production.
4. **Good Compatibility**: Soluble in ethanol/propylene glycol (common food solvents); compatible with most food additives (citric acid, malic acid, sorbate salts, antioxidants); synergistic effect with potassium sorbate/citric acid to enhance preservation efficacy.
5. **Excellent Stability**: No decomposition in normal food processing (high-temperature sterilization 121℃, baking, low-temperature freezing); stable in sealed dry storage; 36 months long shelf life with no quality change.
6. **Green & Eco-Friendly**: Fully biodegradable (no environmental residue); clean production process with no harmful waste; meets green food and organic food production auxiliary material requirements.
7. **High Purity & Low Impurity**: Assay ≥99.0%, ultra-low heavy metal/ash content; no harmful residues; complies with infant food raw material impurity limits; batch-to-batch quality stability.

4. Wide Application Fields

Sorbic Acid is a high-efficiency natural food preservative, suitable for all acidic food (pH 2.5-6.0) production, including beverage, bakery, confectionery, dairy, meat, pickles and health food:

- **Beverage Industry**: Fruit juice, carbonated drink, fruit wine, vinegar, lactic acid drink; inhibits mold/yeast, prevents beverage spoilage and turbidity, extends shelf life (no effect on taste/color).
- **Bakery Industry**: Bread, cake, pastry, moon cake, biscuit; mold inhibitor, prevents food mildew during storage, maintains soft taste, extends shelf life by 2-3 times.

5. Usage Methods & Recommended Dosage

Food Type	Recommended Addition Dosage	Optimal pH Range
Fruit Juice/Carbonated Drink/Fruit Wine	0.05-0.2%	2.5-4.0
Bread/Cake/Pastry/Moon Cake	0.05-0.15%	3.5-6.0
Jelly/Jam/Fruit Preserve/Candy	0.08-0.2%	2.5-5.0
Yogurt/Cheese/Lactic Acid Drink	0.03-0.1%	3.0-5.5
Ham/Sausage/Marinated Meat/Pickles	0.05-0.2%	3.0-6.0
Soy Sauce/Salad Dressing/Condiment Sauce	0.08-0.2%	3.0-5.0
Dried Fruit/Nut Snacks/Health Food	0.05-0.15%	3.0-5.5

6. Packaging, Storage & Transportation

- **Small Batch**: 1kg/5kg/10kg – Food-grade aluminum foil bags (sealed, moisture-proof, oxygen-free) for small-scale production, health food and laboratory use.
- **Standard Batch**: 25kg – Food-grade HDPE plastic drums with inner aluminum foil liner (sealed, dust-proof, moisture-proof) for medium/large-scale food production.
- **Bulk Batch**: 500kg/1000kg – Food-grade FIBC bulk bags with moisture-proof PE liner (sealed valve) for large-scale industrial production and export.
- **Custom Packaging**: 500g/2kg food-grade customized packaging available upon request (for baby food and small-batch health food production).

7. Safety & Quality Assurance

- The product is food-grade, low-toxic at standard dosages; mild skin/eye irritation in high-concentration contact; wear food-grade nitrile gloves, safety goggles, FFP1 dust mask and non-slip safety shoes for bulk handling.
- Follow food hygiene operation standards: wash hands with food-grade hand sanitizer after handling; use dedicated stainless steel/plastic equipment/containers to avoid heavy metal contact; avoid cross-contamination with other food raw materials.
- First aid for accidental contact: rinse skin/eyes with plenty of water; consult a doctor if irritation persists; dilute with milk/water if swallowed, no induced vomiting.