Technical Data Sheet (TDS)

1. Product Overview

Product Name: Sodium Ascorbate**CAS Number**: 134-03-2**Molecular Formula**: $C_6H_7NaO_6$ **Molecular Weight**: 198.11 g/mol**Product Characteristics**: A water-soluble sodium salt of L-ascorbic acid (Vitamin C), a highly stable alkaline derivative of Vitamin C. It is a white to pale yellow crystalline powder or crystals, odorless, with a slightly salty and sour taste, freely soluble in water and slightly soluble in ethanol. It has strong antioxidant activity and reducing property, is significantly more stable than free ascorbic acid in air and aqueous solution, and is non-toxic and mild in property. The product has high bioavailability, can be quickly absorbed by the human body to supplement Vitamin C, and is widely used in food, pharmaceutical, cosmetic and feed industries as an antioxidant, nutritional fortifier and immune enhancer.

2. Technical Specifications

Appearance: White to pale yellow crystalline powder/crystalsAssay (Iodometric Titration): ≥ 98.0%Sodium Content: 11.0-12.5% (Flame Photometry)Loss on Drying (105℃): ≤ 0.5%Residue on Ignition (800±25℃): 28.0-30.0%Heavy Metals (Pb): ≤ 5 ppmArsenic (As): ≤ 1 ppmIron (Fe): ≤ 10 ppmpH Value (5% aqueous solution, 25℃): 7.0-8.0Solubility: Freely soluble in water (≈62 g/100 mL, 25℃); slightly soluble in ethanol; insoluble in chloroform/etherStorage Stability: 36 months at room temperature (sealed, dry); 48 months at 2-8℃ (sealed, dark)Hygroscopy: Slightly hygroscopicAntioxidant Activity: Retains ≥95% activity after 12 months of storage at 25℃

3. Product Advantages

1. **Super High Stability**: Extremely stable in air, aqueous solution and high-temperature processing, not easy to oxidize and decompose, far higher stability than free ascorbic acid, suitable for various processing technologies.
2. **High Bioavailability**: Quickly dissolves in water, is easily absorbed by the human and animal body, and is converted into active Vitamin C in the body to exert biological effects.
3. **Alkaline Property**: Neutral-alkaline pH value, non-acidic, no irritation to the stomach and intestines, suitable for people with gastric acid excess and acidic-sensitive formulations.
4. **Low Impurity & High Purity**: Strict control of heavy metals, arsenic and other harmful substances, meeting FCC, USP, EP, FAO/WHO and national food/pharmaceutical grade standards.
5. **Excellent Compatibility**: Compatible with most food, pharmaceutical and cosmetic raw materials, no adverse reactions, easy to formulate and process, and can be used in combination with other antioxidants to achieve synergistic effects.

4. Application Fields

- **Food Industry**: High-efficiency antioxidant and nutritional fortifier for beverages (carbonated drinks, fruit juice, milk drinks), meat products, seafood, baked goods, fruit and vegetable preserves, condiments; prolongs food shelf life and prevents discoloration and deterioration.
- **Pharmaceutical Industry**: Raw material for Vitamin C supplement preparations (tablets, capsules, oral liquids, injections); antioxidant auxiliary material for pharmaceutical formulations, used for the prevention and treatment of Vitamin C deficiency.
- **Cosmetic Industry**: Antioxidant, anti-aging and moisturizing additive for skin care and hair care products; scavenges free radicals, inhibits melanin formation, and protects skin and hair from oxidative damage.
- **Feed Industry**: Immunity enhancer and antioxidant for livestock, poultry and aquatic feed; improves animal disease resistance, reduces oxidative stress, and improves growth performance and product quality.
- **Other Fields**: Antioxidant for fine chemicals, metal surface treatment agent, and antioxidant additive for water treatment.

5. Usage Methods

- **Food Additive**: Add directly to raw materials or dissolve in water first, recommended addition amount 0.02-0.5% (by weight); adjust the amount according to different food types and processing requirements.
- **Pharmaceutical Formulation**: Mix with excipients according to formulation requirements to prepare solid/liquid preparations or dissolve in sterile water for injection to prepare injectable formulations; adult daily recommended dosage 500-1000 mg (calculated as pure sodium ascorbate).
- **Cosmetic Formulation**: Dissolve in deionized water (10-30 mg/mL) first, then add to the cosmetic system, adjust pH to 6.0-8.0 for better stability; recommended addition amount 0.1-2.0%.
- **Feed Additive**: Mix evenly with feed raw materials, recommended addition amount 0.01-0.2% for livestock and poultry, 0.05-0.3% for aquatic products.**Note**: Avoid mixing with strong oxidizing agents, strong acids and heavy metal ions; seal immediately after use to prevent moisture absorption and oxidation; the product is soluble in water, and the aqueous solution should be used as soon as possible.

6. Packaging & Storage

Packaging Specifications:

- 1 kg/bag (food-grade aluminum foil bag with inner PE bag)
- 5 kg/bag (food-grade aluminum foil bag with inner PE bag)
- 25 kg/drum (food-grade HDPE drum with inner PE bag)
- Custom small-volume packaging available for R&D and trial production

Storage Conditions:

- Store in a cool, dry, well-ventilated warehouse, temperature ≤25℃, relative humidity ≤60%;
- Keep the container tightly sealed, avoid direct sunlight, moisture, air contact and high temperature;
- Store separately from strong oxidizing agents, strong acids, alkalis and toxic/harmful substances; food grade products are stored in a dedicated food additive area to avoid cross-contamination.

Shelf Life: 36 months (unopened, room temperature storage); 48 months (unopened, 2-8℃ refrigerated storage); 6 months after opening (sealed, dry storage).**Transportation**: Non-hazardous goods, transported by ordinary dry means; avoid collision, moisture, sunlight and high temperature during transportation to prevent packaging damage and powder leakage.

7. Safety & Protection

The product is food-grade safe, non-toxic and non-irritating, and no special protective measures are required for routine handling. For large-scale powder handling, wear nitrile rubber gloves and a dust mask to avoid dust inhalation; in case of skin contact, rinse with plenty of water; in case of eye contact, rinse with running water for 5-10 minutes; accidental excessive ingestion may cause mild gastrointestinal discomfort, and drinking more water can promote excretion, and seek medical advice if necessary.

8. Quality Assurance

The product is produced in accordance with ISO 9001 quality management system, ISO 22000 food safety management system and GMP pharmaceutical production standards; food, pharmaceutical and feed grade products are produced in separate production lines to avoid cross-contamination; each batch of products is fully tested by an independent QA laboratory and accompanied by a Certificate of Analysis to ensure compliance with international and national standards; professional technical support is provided for product application, including formulation optimization, dosage adjustment, compatibility test and antioxidant synergistic scheme design.