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Technical Data Sheet (TDS)

Issue Date: 27 FEB 2026**Product Name:** Taurine (Food Grade)**CAS Number:** 107-35-7

1. Product Overview

- **English Name**: Taurine (Food Grade)
- **Chinese Name**: 牛磺酸
- **CAS No.**: 107-35-7
- **Molecular Formula**: $C_2H_7NO_3S$
- **Molecular Weight**: 125.15 g/mol
- **Source**: Synthesized by food-grade chemical synthesis and high-purity refinement process; complies with food safety production standards and infant food raw material requirements.
- **Product Characteristics**: White free-flowing crystalline powder, odorless, slightly sweet taste; food-grade amino sulfonic acid, naturally occurring in human and animal bodies; freely soluble in water, extremely stable in food processing environments; essential nutritional fortifier for food, participates in human bile acid synthesis, nervous system regulation and antioxidant defense; non-toxic, fully biodegradable, meets national/international food safety standards, suitable for various food and beverage production.

2. Technical Specifications (Complies with Food Industry Standard GB 2760-2021)

Item	Specification (Food Grade)
Appearance	White to off-white free-flowing crystalline powder
Assay (Taurine, HPLC)	≥ 99.0%
pH Value (25℃, 5% aqueous solution)	4.0-6.0
Loss on Drying (105℃, 2h)	≤ 0.5%
Ash Content	≤ 0.1%
Chloride (as Cl^-)	≤ 0.01%
Sulfate (as SO_4^{2-})	≤ 0.01%
Density (25℃)	1.73 g/cm³
Bulk Density	0.7-1.0 g/cm³
Heavy Metals (Pb)	≤ 1 ppm
Arsenic (As)	≤ 0.5 ppm
Cadmium (Cd)	≤ 0.1 ppm
Mercury (Hg)	≤ 0.01 ppm
Total Bacterial Count	≤ 100 CFU/g
Yeast & Mold	≤ 10 CFU/g
E. coli/Salmonella	Negative
Water Solubility	Freely soluble in water (≈100 g/L at 25℃)
Temperature Stability	Stable at 0-121℃ (assay retention ≥ 99%)
pH Stability	Stable at pH 2.0-8.0 (assay retention ≥ 99%)
Hygroscopy	Slightly hygroscopic
Taste	Slightly sweet, odorless

3. Product Advantages

1. **High Purity & Food Grade**: Assay ≥99.0%, ultra-low impurity content, all heavy metals meet national/international food safety and infant food raw material limits; no harmful residues, compliant with GB 2760-2021 and FDA GRAS standards.
2. **Essential Nutrient**: Naturally occurring in human body, essential for infant brain development, bile acid synthesis and nervous system regulation; cannot be synthesized in sufficient quantities by infants and young children, must be supplemented by food.
3. **Extreme Stability**: Ultra-stable in food processing, no decomposition under high-temperature sterilization (121℃), acid/alkali treatment and long-term storage; no reaction with other food raw materials, ensures nutritional efficacy retention.

4. **Excellent Processability**: Freely soluble in water, rapid dissolution without precipitation; uniform dispersion in liquid/solid food; slightly sweet taste, no bitter or astringent taste, does not affect food original flavor.
5. **Multi-Functional Application**: Integrates **nutritional fortification**, **flavor enhancement** and **acidity regulation**; one product for multiple food processing needs, widely used in beverage, dairy, confectionery and infant food industries.
6. **Green & Safe**: Food-grade synthesis process, non-toxic, non-irritating; fully biodegradable, environmentally friendly; no toxic side effects at standard use dosages, compliant with green food, organic food and infant food additive requirements.
7. **Long Shelf Life**: Slightly hygroscopic, no caking under proper storage; 36 months shelf life for unopened products, the longest among food grade amino acid fortifiers.

4. Application Fields

Taurine is a high-efficiency food-grade essential nutritional fortifier, suitable for various beverage, dairy, infant food, confectionery, frozen food and nutritional supplements:

- **Beverage Industry**: Energy drink, sports drink, fruit juice, milk beverage, soybean milk, carbonated beverage; the most common nutritional fortifier for energy drinks, improves beverage nutritional value.
- **Dairy Products**: Milk, yogurt, cheese, milk powder, infant formula milk powder; essential fortifier for infant milk powder, meets infant growth and development needs.
- **Confectionery & Bakery**: Candy, chocolate, biscuit, cake, bread; improves flavor and adds nutritional value, no effect on product texture and shelf life.

5. Usage Methods

Food Type	Recommended Addition Dosage
Energy Drink/Sports Drink	0.1-0.5%
Fruit Juice/Milk Beverage	0.05-0.2%
Infant Formula Milk Powder	0.03-0.1%
Milk/Yogurt/Cheese	0.02-0.05%
Candy/Chocolate/Biscuit	0.05-0.3%
Nutritional Food/Protein Powder/Elderly Food	0.1-0.5%
Health Food (Nutritional Supplements)	1.0-10.0% per serving

6. Packaging & Storage

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

7. Safety & Protection

- The product is food-grade, non-toxic and non-hazardous; essential nutrient for human body, no toxic side effects at standard use dosages, safe for humans (including infants/elderly), animals and the environment; no irritation to skin, eyes and respiratory tract.
- Wear food-grade PPE (nitrile rubber gloves, non-slip food-grade safety shoes) during bulk handling and mixing; safety goggles are optional (no irritation risk); handling infant food raw material should wear disposable sterile protective equipment.
- Follow food hygiene operation standards: wash hands thoroughly with food-grade hand sanitizer/pure water after handling; do not eat/drink/smoke while operating the product; use dedicated food-grade equipment and containers for handling to avoid cross-contamination; infant food raw material should use sterile dedicated equipment.