纳维盈医化科技
NEWAY SINOPHC TECH

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Technical Data Sheet (TDS)

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1. Product Overview

- **Product Name**: Glycine
- **Chemical Name**: Aminoacetic acid; Glycin; 2-Aminoethanoic acid
- **CAS Number**: 56-40-6
- **Molecular Formula**: $C_2H_5NO_2$
- **Molecular Weight**: 75.07 g/mol
- **Product Trait**: White odorless crystalline powder; non-hazardous solid; mild respiratory irritation only from high-concentration dust inhalation; freely soluble in water, slightly soluble in ethanol, insoluble in organic solvents; stable under normal storage/use conditions; the simplest and essential amino acid for human/animal body. **FOR FOOD ADDITIVE, PHARMACEUTICAL INTERMEDIATE, FEED ADDITIVE, INDUSTRIAL RAW MATERIAL AND BIOCHEMICAL REAGENT USE ONLY**.
- **Core Properties**: High purity (≥98.5%, food/pharm grade ≥99.5%); low heavy metal and impurity content; excellent water solubility; non-toxic and safe for human/animal/environment; stable under normal processing conditions; compliant with global food/pharm/feed standards (GB 2760, FDA GRAS, EP, USP); multi-functional and widely applicable; long shelf life (36 months).
- **Main Application**: Food additive (flavor enhancer, nutrient supplement, acidity regulator); pharmaceutical intermediate (amino acid injection, oral preparation); feed additive (animal nutrient supplement, growth promoter); industrial raw material (cosmetic humectant, water treatment agent, polymer synthesis monomer); biochemical reagent (cell culture, protein synthesis).

2. Technical Specifications (Industrial/Food/Pharm Grade)

Item	Specification (Industrial Grade)	Specification (Food/Pharm Grade)
Appearance	White crystalline powder	White crystalline powder/crystals
Assay (Glycine)	≥98.5% (HPLC)	≥99.5% (HPLC)
Melting Point (Decomposition)	232-236℃	233-235℃
pH Value (5% aqueous, 25℃)	5.5-7.0	6.0-6.5
Loss on Drying	≤0.5%	≤0.2%
Residue on Ignition	≤0.1%	≤0.05%
Heavy Metals (Pb)	≤5 ppm	≤1 ppm (AAS)
Heavy Metals (As)	≤1 ppm	≤0.5 ppm (AFS)
Chloride (Cl^-)	≤0.01%	≤0.005%
Sulfate (SO_4^{2-})	≤0.01%	≤0.005%
Ammonium (NH_4^+)	≤0.02%	≤0.01%
Water Solubility (25℃)	≥24 g/100 mL	≥25 g/100 mL
Total Bacterial Count	≤100 CFU/g	≤10 CFU/g
E. coli	Negative	Negative
Yeast & Mold	≤50 CFU/g	≤5 CFU/g
Bulk Density	1.10-1.15 g/cm³	1.12-1.14 g/cm³

3. Product Advantages

1. **High Purity & Multi-Grade Compliance**: Assay ≥98.5% (food/pharm grade ≥99.5%) with ultra-low heavy metals, impurities and microbial content; meets Chinese Pharmacopoeia (2020), EP, USP and GB 2760 standards; suitable for high-end food, pharmaceutical and biochemical reagent use.
2. **Safe & Non-Toxic**: The simplest essential amino acid for human/animal body; non-toxic at normal dosage; no skin/eye irritation; only mild respiratory discomfort from high-concentration dust; fully biodegradable, no environmental pollution risk.
3. **Excellent Solubility & Stability**: Freely soluble in water (25 g/100 mL at 25℃); stable under normal storage/processing conditions (≤200℃); no degradation in aqueous solution (pH 5.0-8.0);

hygroscopic but caked powder can be reused after dissolution; 36-month long shelf life (unopened).

4. Application Fields & Dosage Guide

- **Food Industry**: Flavor enhancer for seasoning, sauce, meat products; nutrient supplement for dairy products, beverage, baby food; acidity regulator for candy, pastry; anti-caking agent for powdered food.
- **Pharmaceutical Industry**: Intermediate for amino acid complex injection, oral amino acid preparation; raw material for glycine-based drugs (antacid, anti-inflammatory); excipient for tablet/capsule.
- **Feed Industry**: Essential amino acid supplement for poultry, livestock, aquatic animals; growth promoter to improve feed conversion rate; stress resistance enhancer for animal breeding.
- **Cosmetic Industry**: Humectant for skin care products (cream, lotion, mask); moisturizer for hair care products (shampoo, conditioner); pH regulator for cosmetic formulations.

Application Field	Dosage (Industrial Grade)	Dosage (Food/Pharm Grade)	Remarks
Food - Seasoning/Beverage/Dairy	—	0.1-2.0%	Improve flavor/nutrition
Pharmaceutical - Injection/Oral Prep	—	5-99%	Raw material/intermediate
Feed - Poultry/Livestock/Aquatic	0.5-3.0%	—	Nutrient supplement
Cosmetic - Skin Care/Hair Care	0.2-1.0%	0.1-0.5%	Humectant/moisturizer
Water Treatment - Corrosion Inhibitor	1.0-5.0%	—	Add to water treatment agent
Polymer Synthesis - Monomer	10-99%	—	Adjust according to reaction
Biochemical Reagent - Lab Research	—	0.01-5.0% (w/v)	Aqueous solution

5. Usage & Formulation Guidelines

- **Food Formulation (Dairy Beverage)**: Dissolve food grade Glycine (0.2-0.5%) in purified water at 40-50℃; add to dairy base (milk/yogurt) and stir evenly; add sweetener and flavoring; sterilize at low temperature (≤85℃); improve nutrition and taste stability.
- **Pharmaceutical Formulation (Oral Powder)**: Mix pharm grade Glycine (20-50%) with other amino acids (alanine, glutamic acid) and excipients (mannitol); grind into fine powder and mix evenly; pack into sachets; ensure dust-free operation environment.

6. Packaging & Storage

- **100g/500g/1kg HDPE plastic bottle**: Food/Pharm/Biochemical lab/R&D/small-batch use, sealed with screw cap + inner plug
- **5kg/10kg HDPE paper drum**: Industrial/Food medium-batch use, inner plastic lining + moisture-proof seal
- **25kg HDPE paper drum/jumbo bag**: Industrial/Food/Pharm bulk use, double inner lining + nitrogen -filled packaging (for long-term storage)
- **Custom Packaging**: 10g/50g sample bottles (all grades); 50kg jumbo bags; vacuum packaging (available upon request)

7. Safety & Protection

- The product is a **non-hazardous solid** with only mild respiratory irritation from high-concentration dust inhalation; no skin/eye irritation, no fire/explosion risk; all operations can be conducted with basic safety precautions.
- Wear dust mask (N95), safety goggles and nitrile rubber gloves for bulk handling/large-scale production to avoid inhaling dust; no special PPE required for small-batch operation.
- Operate in a well-ventilated area with local dust extraction system for industrial production; no special ventilation required for routine use.