

Technical Data Sheet (TDS)

Issue Date: February 28, 2026 **Product Name:** Glucose Monohydrate (Feed Grade) **CAS Number:** 5996-10-1

1. Product Overview

- **English Name:** Glucose Monohydrate (Feed Grade)
- **Synonyms:** D-Glucose monohydrate; Dextrose monohydrate; Feed grade dextrose
- **CAS No.:** 5996-10-1
- **Molecular Formula:** $C_6H_{12}O_6 \cdot H_2O$
- **Molecular Weight:** 198.17 g/mol
- **Source:** Produced by enzymatic hydrolysis of corn starch, followed by purification, crystallization and drying; food/feed grade production process, no chemical residue, high purity.
- **Product Characteristics:** White crystalline free-flowing powder, odorless, sweet taste; freely soluble in water, a natural monosaccharide and the most basic energy source for animal metabolism. As a core feed additive, it serves as an instant energy supplement, improves feed palatability, acts as a binder for pelleted feed, and provides carbohydrate for animal growth and reproduction. It is non-toxic, highly digestible, biodegradable, and compliant with global feed/food additive standards, suitable for all livestock, poultry, aquaculture and pet feed.

2. Technical Specifications (Complies with Feed Industry Standards)

Item	Specification
Appearance	White to off-white free-flowing crystalline powder, no caking
Assay (Glucose Monohydrate)	≥ 99.0% (HPLC)
Loss on Drying	7.5-9.0%
Ash Content	≤ 0.1%
pH Value (10% aqueous solution, 25°C)	4.0-6.0
Reducing Sugar (as glucose)	≥ 99.0%
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Cadmium (Cd)	≤ 0.5 ppm
Mercury (Hg)	≤ 0.1 ppm
Solubility	Freely soluble in water (90 g/100 mL at 25°C); slightly soluble in ethanol
Bulk Density	0.6-0.9 g/cm ³
Total Bacterial Count	≤ 10 ³ CFU/g
Yeast & Mold	≤ 10 ² CFU/g
Pathogens (E. coli/Salmonella)	Negative
Storage Stability	Purity retention ≥ 98% (24 months, ≤25°C, dry)
Water Solubility Clarity	Clear and transparent, no turbidity (10% aqueous solution)

3. Product Advantages

1. **High Purity & High Digestibility:** Assay ≥99.0%, no impurities, rapidly absorbed and utilized by animal intestines, instant energy supply, feed conversion rate improvement.
2. **Multi-Functional Efficacy:** Integrates energy supplement, palatability enhancement and pelleted feed binding; one additive meets multiple feed formulation needs, reducing formulation cost.
3. **Improves Animal Performance:** Promotes animal growth and development, enhances reproductive performance of breeding animals, improves anti-stress ability (transport, weaning, heat stress) by supplementing instant energy.
4. **Enhances Feed Palatability:** Mild natural sweet taste, improves feed acceptance of young animals and picky-eating animals, reduces feed waste.
5. **Excellent Binder Performance:** Dissolves in water to form a viscous solution, improves the hardness and water stability of pelleted feed, reduces pellet breakage rate.

6. **Green & Safe:** Derived from natural corn starch, no artificial synthesis, no drug residues, no resistance; meets green animal husbandry and organic breeding requirements.

4. Application Fields

Glucose monohydrate is a core energy feed additive, suitable for all livestock, poultry, aquaculture, ruminants and pet feed, especially for young animals, breeding animals and animals under stress conditions.

- **Poultry Feed:** Broilers, layers, ducks, geese, quails; improves hatching rate of breeding eggs, promotes chick growth, enhances egg production rate and egg quality, improves anti-heat stress ability in summer.
- **Livestock Feed:** Pigs (weaned piglets, grow-finish pigs, sows), cattle, sheep; relieves weaning stress of piglets, promotes lactation of sows/dairy cows, enhances growth rate of fattening animals, improves meat quality.
- **Aquaculture Feed:** Fish (tilapia, carp, salmon, prawn), shrimp, crab; provides instant energy for aquatic animals, improves feed palatability and water stability of aquatic feed, increases survival rate and growth rate.

5. Usage Methods

Animal Species	Growth Stage	Normal Breeding Dosage (kg/ton)	Stress Condition Dosage (kg/ton)
Poultry	Chicks/Broilers (0-42 days)	5-10	10-15
	Layers/Breeding Poultry	3-8	8-12
Livestock	Weaned piglets (7-28 days)	8-15	15-20
	Grow-finish pigs	5-10	10-15
	Sows/Dairy cattle	6-12	12-18
Aquaculture	Fish/Shrimp (Fry)	10-20	20-30
	Fish/Shrimp (Adult)	5-10	10-15
Pet Feed	Dogs/Cats (All stages)	8-15	15-20
Feed Premixes	Compound premix	10-20	20-30

6. Packaging & Storage

- **Small Batch:** 1 kg / 5 kg / 10 kg: Sealed aluminum foil bags (moisture-proof) – for trials, small-scale breeding and pet feed production.
- **Standard Batch:** 25 kg: Multi-ply paper bags with inner polyethylene (PE) liner (moisture-proof, dust-proof) – standard industrial packaging for feed mills.
- **Bulk Batch:** 500 kg / 1000 kg: FIBC bulk bags with PE liner and moisture-proof valve – for large-scale feed production and aquaculture use.
- **Custom Packaging:** Available upon customer request (all packaging is moisture-proof as standard).

7. Safety & Protection

- The product is non-toxic and non-hazardous; wear mandatory PPE (safety goggles, nitrile rubber gloves, FFP1 dust mask, non-slip safety shoes) during bulk handling and mixing to avoid fine powder inhalation, eye contact and slipping.
- Do not eat, drink or smoke while handling the product; wash hands and face thoroughly with soap and water after operation.
- In case of eye contact: Rinse with plenty of running water for 10-15 minutes; seek medical advice immediately if irritation persists for more than 24 hours.
- In case of skin contact: Rinse the affected area with water and soap; no special treatment required for normal contact.