

Technical Data Sheet (TDS)

Issue Date: February 28, 2026 **Product Name:** Glucose Oxidase (Feed Grade) **CAS Number:** 9001-37-0

1. Product Overview

Glucose Oxidase (GOD, EC 1.1.3.4) is a green, high-efficiency feed additive prepared by **microbial fermentation** (*Aspergillus niger*) and refined by separation, purification and spray-drying. It is combined with maltodextrin (inert carrier) to form a stable free-flowing powder.

As a key functional enzyme, GOD catalyzes the oxidation of glucose to gluconic acid and hydrogen peroxide (H₂O₂) in animal intestines. It reduces intestinal glucose content (inhibits pathogen growth), lowers intestinal pH (promotes probiotic reproduction), and decomposes mold toxins (e.g., aflatoxin), thereby improving animal intestinal health, enhancing immunity and increasing feed conversion efficiency.

2. Core Technical Parameters

Parameter	Specification (Feed Grade)
CAS Number	9001-37-0
Enzyme Activity (standard)	10,000 U/g (customizable: 5,000 - 50,000 U/g)
Optimum pH	5.0 - 6.0
Optimum Temperature	30 - 50°C
Temperature Stability	Stable at ≤60°C (10min); inactivated at >80°C
Appearance	Light yellow to brownish powder
Solubility	Soluble in water (stable suspension)
Carrier	Maltodextrin (feed grade)
Shelf Life	24 months (2-8°C); 12 months (≤25°C)

3. Quality Specifications (Feed Grade)

Test Item	Strict Specification
Enzyme Activity	≥ Stated Value (10,000 U/g)
Loss on Drying	≤ 8.0%
Ash Content	≤ 8.0%
pH (1% w/v)	4.5 - 6.5
Heavy Metals (Pb)	≤ 10 ppm
Arsenic (As)	≤ 2 ppm
Microbial Limits	Total Plate Count ≤10 ⁴ CFU/g; Yeast & Mold ≤10 ² CFU/g
Pathogens	E. coli (-), Salmonella (-)
Mycotoxins	Aflatoxin B1 ≤5 µg/kg

4. Product Advantages

- Intestinal Health Regulator:** Reduces intestinal glucose, inhibits the growth of *E. coli*, *Salmonella* and other pathogens; promotes the reproduction of *Lactobacillus* and *Bifidobacterium*.
- Mold Toxin Degradation:** Hydrogen peroxide produced by catalysis can decompose aflatoxin, reducing the harm of mycotoxins in feed.
- Acidification without Residue:** Produces gluconic acid in situ (no need to add excessive inorganic acids), lowers intestinal pH mildly and safely.
- High Stability:** Resistant to feed pelleting temperature (≤60°C for 10min); stable in storage under low temperature conditions.
- Green & Safe:** No chemical residues, no drug resistance; compliant with global feed safety regulations.

5. Applications & Recommended Dosage

Suitable for swine, poultry, aquaculture and ruminant feed; especially effective for weaned piglets, broilers and aquatic animals with sensitive intestines.

Animal Species	Growth Stage	Recommended Dosage (per ton of complete feed)
Swine	Weaned Piglets	500 - 1,000 g (10,000 U/g)
	Grow-Finish Pigs	300 - 500 g (10,000 U/g)
	Sows (Lactation)	500 - 800 g (10,000 U/g)
Poultry	Broilers (0-21 days)	300 - 500 g (10,000 U/g)
	Layers (Laying Period)	200 - 300 g (10,000 U/g)
Aquaculture	Fish/Shrimp (All Stages)	800 - 1,500 g (10,000 U/g)
Feed Premixes	Vitamin/Mineral Premixes	1% - 3% of premix weight

6. Usage Methods

- Dry Mixing (Recommended):** Mix the enzyme powder evenly with feed raw materials or premixes (**step-by-step dilution** with 5-10 times carrier is required to ensure uniform distribution).
- Wet Mixing:** Dissolve in clean water (room temperature, $\leq 30^{\circ}\text{C}$) first, then add to wet feed or drinking water (avoid high temperature water to prevent enzyme inactivation).
- Pelleting Note:** Add GOD **after the pelleting cooling stage** if pelleting temperature exceeds 60°C ; add during mixing stage if pelleting temperature $\leq 60^{\circ}\text{C}$.

7. Packaging & Storage

7.1 Packaging Specifications

- Small Batch:** 1 kg, 5 kg, 10 kg sealed aluminum foil bags (moisture-proof, light-proof) – for trials and small-scale use.
- Standard Batch:** 25 kg multi-ply paper bags with inner PE liner (moisture-proof) – for industrial feed production.
- Bulk Batch:** 500 kg / 1000 kg FIBC bulk bags with PE liner (customizable) – for large-scale aquaculture/livestock use.

7.2 Storage Conditions (Critical for Efficacy)

- Long-term Storage (≥ 6 months):** Store at $2-8^{\circ}\text{C}$ in a cool, dry, dark warehouse; keep tightly closed.
- Short-term Storage (< 6 months):** Store at $\leq 25^{\circ}\text{C}$, relative humidity $\leq 65\%$; avoid direct sunlight and moisture.
- After Opening:** Seal the package immediately after use; use within 1 month (store at $2-8^{\circ}\text{C}$ for best results).

8. Regulatory Compliance & Quality Assurance

- Certifications:** Complies with ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and GMP for feed additives.
- Global Compliance:** Meets China GB 13078, EU EC 1831/2003, US FDA feed safety standards.
- Quality Guarantee:** Each batch is accompanied by a COA; enzyme activity is tested before release to ensure it meets the stated specifications.
- Technical Support:** Provide customized dosage schemes, feed formulation optimization and enzyme activity detection services.