Safety Data Sheet (MSDS)

- Feed Grade Anhydrous Glucose(Compliant with GB/T 16483, GHS Rev.9, IMDG, IATA)**Revision Date: 28 FEB 2026**

SECTION 1: Identification

1.1 Product Identifiers

- Name: Anhydrous Glucose (Feed Grade)
- Product Number: AG-FEED-20260228
- Brand: SIGALD
- CAS No.: 50-99-7
- Synonyms: D-Glucose Anhydrous; Dextrose Anhydrous; Feed Grade Anhydrous Dextrose
- Molecular Formula: $C_6H_{12}O_6$
- Molecular Weight: 180.16 g/mol

1.2 Supplier Details

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: RM. 204, BLDG 3, 188 AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE
- Tel: +86-021-50350029 | Fax: +86-021-50350029

1.3 Emergency Contact: +86-021-50350029 (24h)

1.4 Uses & Restrictions

- **Identified Uses**: Exclusive for animal feed additive; energy supplement, sweetener and nutrient fortifier for livestock, poultry and aquaculture animals, improves feed palatability and growth performance.
- **Uses Advised Against**: Not for pharmaceutical injection use; no large-scale direct human consumption without formulation.

SECTION 2: Hazards Identification

2.1 GHS Classification

- No hazardous classification (GHS 0 category)
- **Pictogram**: None
- **Signal Word**: None
- **Hazard Statements**: None
- **Precautionary Statements**: None

2.2 SummaryWhite odorless crystalline powder, non-toxic, non-flammable, non-explosive. Mild dust irritation may occur in sensitive individuals during bulk handling; no acute/chronic health hazards. Environmentally friendly, fully biodegradable, no adverse effects on aquatic/terrestrial organisms. Essential energy nutrient for animals, safe at all recommended feed addition levels.

SECTION 3: Composition/Information on Ingredients

- **Substance/Mixture**: Pure substance (≥99.0%)
- **Active Component**: Anhydrous Glucose (CAS 50-99-7), 99.0-99.8% (w/w)
- **Impurities**: Trace water and inorganic salts (≤1.0%), no hazardous ingredients

- **Hazardous Components**: None (all components comply with GB 13078.1-2017 feed safety standards)

SECTION 4: First Aid Measures

4.1 First-Aid Measures

- **Inhalation**: Move victim to fresh air if dust inhalation causes coughing. No special treatment required; symptoms subside spontaneously. Seek medical advice only if irritation persists.
- **Skin Contact**: Rinse contaminated skin with plenty of running water for 5-10 minutes. Wipe off residual powder first if needed; no skin irritation, no further treatment required.
- **Eye Contact**: Rinse eyes thoroughly with clean running water for 5-10 minutes, hold eyelids open during rinsing. Remove contact lenses if present. Consult an ophthalmologist only if mild dust irritation persists in sensitive individuals.
- **Ingestion (Human)**: Rinse mouth with water. The product is non-toxic; accidental ingestion causes no adverse effects. Seek medical advice only if large amounts are swallowed and gastrointestinal discomfort occurs (rare).

4.2 Key Symptoms & Effects: Mild transient respiratory/eye irritation from dust in sensitive individuals; no other toxic effects.4.3 Antidote: No specific antidote; treat symptomatically if needed.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media: Water spray, carbon dioxide (CO_2), dry chemical powder, foam. All common agents are suitable.5.2 Hazards in Fire: Non-combustible under normal conditions; decomposes at high temperatures (>300℃) to produce non-toxic carbon dioxide and water. No hazardous combustion gases, no explosion risk.5.3 Firefighter Advice: Wear standard fire-fighting gear and a dust mask to avoid inhalation of combustion dust. Cool surrounding containers with water spray to prevent thermal expansion and powder scattering.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions: Wear N95 dust mask and disposable gloves for large spills to avoid dust inhalation and skin contact. Ensure good ventilation in the spill area.6.2 Environmental Precautions: No special environmental precautions; the product is fully biodegradable. Prevent large amounts from entering water bodies to avoid temporary increase in water sugar content (no toxic impact on aquatic life).6.3 Cleanup Methods:

- **Small Spill**: Sweep into a sealed HDPE container for reuse. Wipe the area with a dry cloth and dispose of the cloth as general waste.
- **Large Spill**: Collect with a dust-free vacuum cleaner into sealed drums. Avoid contact with water to prevent caking and slippery surfaces.6.4 Disposal Reference: See Section 13.

SECTION 7: Handling and Storage

7.1 Handling Precautions

- Operate in a well-ventilated area with local dust extraction for bulk handling. Avoid generating dust during weighing and mixing.

- Use dry equipment/tools (slightly hygroscopic); avoid contact with strong oxidizers and high-temperature environments (>60℃) for long periods.
- Hygiene Measures: Wash hands thoroughly with soap and water after handling; avoid touching eyes and mouth before hand washing.

7.2 Storage Conditions

- **Temperature**: ≤25℃; store in a cool, dry, well-ventilated warehouse
- **Relative Humidity**: ≤60% (prevent hygroscopic caking)
- **Packaging**: Keep tightly sealed in original moisture-proof PP woven bags/HDPE drums with inner PE liners
- **Shelf Life**: **36 months (unopened, under specified storage conditions)**
- **Incompatibilities**: Strong oxidizing agents (e.g., potassium permanganate, hydrogen peroxide), concentrated acids
- **Segregation**: Store separately from oxidizers, concentrated acids and non-feed grade chemicals. Mark "FEED GRADE" clearly.

SECTION 8: Exposure Controls/Personal Protection

8.1 Occupational Exposure Limit (OEL): No specific OEL for anhydrous glucose; follow general industrial dust limit (10 mg/m³ TWA, respirable fraction)8.2 Engineering Controls: Local exhaust ventilation systems in bulk loading/unloading and mixing areas to control dust concentration. Closed mixing equipment for feed production to minimize dust release.8.3 Personal Protective Equipment (PPE)

- **Respiratory**: N95 dust mask (for bulk handling/loading/unloading only)
- **Eye/Face**: Safety glasses (recommended for large-scale handling to prevent dust from entering eyes)
- **Skin**: Disposable nitrile gloves (optional; no skin irritation risk)
- **Other**: Wear dust-proof overalls and shoes to avoid powder contamination of work clothes.

SECTION 9: Physical and Chemical Properties

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Property	Details (25℃, 1 atm)
Physical State	White crystalline powder
Odor	Odorless
Taste	Sweet (milder than sucrose)
pH Value (5% aqueous)	4.0-6.5
Melting Point	146℃ (decomposes after melting)
Boiling Point	N/A (decomposes before boiling)
Flash Point	Not applicable (non-combustible)
Flammability	Non-combustible
Hygroscopy	Slightly hygroscopic

Property	Details (25℃, 1 atm)
Water Solubility	Freely soluble (90 g/100 mL at 25℃)
Ethanol Solubility	Slightly soluble (0.6 g/100 mL at 25℃)
Bulk Density	0.60-0.80 g/cm³
True Density	1.54 g/cm³
Vapor Pressure	<0.0001 kPa
Decomposition Temperature	>300℃
Refractive Index (10% aqueous)	1.347

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage and use conditions (cool, dry, sealed). Slightly hygroscopic in humid air; no chemical degradation under normal feed processing conditions.10.2 Hazardous Reactions: No hazardous reactions under normal use and storage conditions. Reacts with strong oxidizers at high temperature to produce non-toxic CO_2 and H_2O.10.3 Conditions to Avoid: High humidity, high temperature (>300℃), direct contact with strong oxidizers/concentrated acids, prolonged exposure to open air.10.4 Incompatible Materials: Potassium permanganate, hydrogen peroxide, concentrated sulfuric acid, nitric acid.10.5 Hazardous Decomposition Products: Carbon dioxide, water, small amounts of carbon monoxide (only at extreme high temperature); no toxic decomposition products.10.6 Hazardous Polymerization: Will not occur.

SECTION 11: Toxicological Information

11.1 Toxicological Effects

- **Acute Toxicity**: Oral (Rat) LD_{50} >20,000 mg/kg; Dermal (Rabbit) LD_{50} >20,000 mg/kg; Inhalation (Rat) LC_{50} >50 mg/m³ (4h) (Non-toxic)
- **Skin Corrosion/Irritation**: No skin irritation (Rabbit, 4-hour exposure; GHS Category 0)
- **Serious Eye Damage/Irritation**: Mild transient irritation from dust (Rabbit, 24-hour exposure; fully reversible)
- **Respiratory/Skin Sensitization**: No sensitizing effects (no known allergic reactions)
- **Carcinogenicity**: IARC Classification - Group 3 (not classifiable); glucose is an essential human/animal nutrient with no carcinogenic risk.
- **Reproductive Toxicity**: No reproductive toxicity; essential energy source for fetal/young animal development.
- **Target Organ Toxicity**: No single/repeated exposure target organ toxicity at any dose.
- **Aspiration Hazard**: Low (crystalline powder, no aspiration risk under normal handling).

11.2 Additional Information: Anhydrous glucose is a primary energy nutrient for all living organisms; no toxic effects at any feed addition level, excess is metabolized or excreted by animals.

SECTION 12: Ecological Information

12.1 Aquatic Toxicity: LC_{50} (Zebrafish, 96h) >5000 mg/L; EC_{50} (Daphnia, 48h) >5000 mg/L (Non-toxic to aquatic organisms)12.2 Persistence and Degradability: Fully biodegradable (BOD_5/COD >0.8) in soil and aquatic environments; degraded by microorganisms into CO_2 and H_2O within 7-14 days.12.3 Bioaccumulative Potential: No bioaccumulation potential (water-soluble, rapidly metabolized by all organisms).12.4 Mobility in Soil: Moderate mobility (water-soluble); binds weakly to soil organic matter, minor leaching risk (no environmental impact).12.5 Environmental Impact: Environmentally friendly; no adverse effects on soil, water, plants or animals. Excretion in animal manure acts as a mild carbon source for soil microorganisms, improving soil fertility. Large spills cause no secondary pollution.

SECTION 13: Disposal Considerations

13.1 Product Waste: Expired or caked anhydrous glucose is non-hazardous waste. Can be reused (if re-dried/crushed) or disposed of as general solid waste. Mix with organic fertilizer for soil amendment (mild energy source for microorganisms) is allowed.13.2 Packaging Waste: Rinse packaging thoroughly with water to remove residual powder; recycle PP/HDPE packaging as non-hazardous plastic waste or dispose of as general waste.13.3 Disposal Compliance: Comply with China General Solid Waste Pollution Control Law and local environmental regulations. No special treatment required for waste product.

SECTION 14: Transport Information

- **UN Number**: None (Non-hazardous goods for transport)
- **UN Proper Shipping Name**: Anhydrous Glucose (Feed Additive), Not Dangerous Goods
- **Hazard Class**: None | **Packaging Group**: None | **Environmental Hazard**: No
- **Transport Precautions**:

1. Transport in covered, dry ordinary cargo vehicles; avoid rain/snow/humidity (prevent hygroscopic caking).
2. Secure packaging with pallets; avoid collision/damage to prevent dust leakage and caking.
3. Avoid mixing with strong oxidizers, concentrated acids and non-feed grade chemicals in the same vehicle.
4. Protect from direct sunlight and high temperature (≤30℃) during summer transport; no anti-freezing measures required (stable at ≥0℃).

SECTION 15: Regulatory Information

- **China**: Compliant with **GB 13078.1-2017 (Feed Hygiene Standard)**, listed in the *National Catalogue of Feed Additives* (energy supplement and sweetener). Complies with GB 7718 feed label standards.
- **EU**: Compliant with EC 1831/2003 (Feed Additives Regulation), REACH registered (50-99-7), not in SVHC List. Approved for all livestock/poultry/aquaculture feed use.
- **US**: TSCA listed (50-99-7), approved by FDA/CVM for animal feed use (21 CFR Part 573), meets NRC nutrient standards for animals.

- **International**: Meets Codex Alimentarius Commission and OIE feed additive safety standards; accepted globally for animal feed use as an energy supplement.

SECTION 16: Other Information

- **Disclaimer**: This MSDS is for feed grade anhydrous glucose (50-99-7) only. Misuse for non-feed purposes (e.g., pharmaceutical injection, industrial chemical synthesis) is at the user's sole risk. The supplier is not liable for damages resulting from improper handling, storage, transport or disposal of this product.
- **Key Note**: The product is slightly hygroscopic; ensure sealed storage and dry handling to prevent caking and maintain product flowability.
- **Revision Date**: 28 FEB 2026