



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

Safety Data Sheet (MSDS)

According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards **Product Name:**

Glucose Monohydrate (Feed Grade, Crystalline Powder) **Revision Date:** February 27, 2026

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifiers

- Product Name: Glucose Monohydrate (Feed Grade)
- Product Number: GLU-F20260229
- Brand: SIGALD
- CAS-No.: 5996-10-1
- EINECS-No.: 208-373-7
- Synonyms: D-Glucose monohydrate; Dextrose monohydrate; Feed grade glucose
- Product Form: White crystalline free-flowing powder

1.2 Details of the Supplier

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
- Telephone: +86-021-50350029
- Fax: +86-021-50350029

1.3 Emergency Telephone

- Emergency Phone #: +86-021-50350029 (CHEMTREC)

1.4 Relevant Identified Uses and Uses Advised Against

- **Identified Uses:** Feed additive for livestock, poultry, aquaculture, ruminants and pets; energy supplement, palatability enhancer, feed binder and carbohydrate source for animal nutrition.
- **Uses Advised Against:** Not for human pharmaceutical injection; no use in high-temperature industrial processing (>200°C) for direct feed application; not for medical grade use without further purification.

SECTION 2: Hazards Identification

- **GHS Classification:** Not classified as a hazardous substance or mixture under GHS (Regulation (EC) 1272/2008)
- **GHS Label Elements**
 - Hazard Pictogram: None
 - Signal Word: None
 - Hazard Statements: None
 - Precautionary Statements: P261, P271, P330
- **Physical and Chemical Hazards:** Non-combustible, non-explosive; stable under normal use conditions; hygroscopic, freely soluble in water.
- **Health Hazards:** Generally non-toxic; inhalation of fine crystalline powder may cause mild respiratory irritation in sensitive individuals; overconsumption may cause mild gastrointestinal discomfort (diarrhea) in animals/humans.



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- **Environmental Hazards:** Environmentally friendly; fully biodegradable by microorganisms; no toxic effects on aquatic and terrestrial organisms; no bioaccumulation potential.
- **Other Hazards:** No additional hazards identified for feed grade handling and use; dust may form slippery surfaces on floors.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure chemical substance (monosaccharide hydrate)
- **Active Component:** Glucose Monohydrate (99.0-99.8%, CAS 5996-10-1)
- **Inert Components:** No artificial additives, binders, preservatives or fillers
- **Hazardous Impurities:** None (heavy metals controlled to feed grade limit requirements)
- **Key Purity Index:** Assay $\geq 99.0\%$, loss on drying 7.5-9.0%

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled:** Move to fresh air, keep at rest in a position comfortable for breathing. If coughing or irritation persists, rinse mouth with water and consult a doctor if needed.
- **In Case of Skin Contact:** Rinse skin thoroughly with plenty of running water and mild soap for 5-10 minutes. Remove contaminated clothing and wash before reuse. No special treatment required for normal contact.
- **In Case of Eye Contact:** Rinse cautiously with water for 10-15 minutes. Remove contact lenses if present and easy to do. If eye redness or irritation persists, seek medical advice immediately.
- **If Swallowed:** Rinse mouth with water. Give plenty of water to drink. Do not induce vomiting. No toxic effects expected at feed grade intake; consult a doctor only if severe gastrointestinal discomfort (diarrhea, nausea) occurs.

4.2 Most Important Symptoms and Effects

- **Acute Effects:** Mild respiratory irritation from fine powder inhalation; transient eye redness in sensitive individuals; mild gastrointestinal discomfort in case of excessive ingestion.
- **Delayed Effects:** No known delayed toxic effects based on current scientific data and long-term animal feed studies.

4.3 **Immediate Medical Attention:** Seek medical help only if irritation, coughing or gastrointestinal symptoms persist or worsen for more than 24 hours.

4.4 **Notes to Physician:** Treat symptomatically; no specific antidote available; inform the physician of the product composition (pure glucose monohydrate) if needed.

SECTION 5: Fire-Fighting Measures

5.1 **Extinguishing Media:** Suitable - Water spray, foam, carbon dioxide (CO₂), dry chemical powder; Unsuitable - No limitations of extinguishing agents.

5.2 **Special Hazards Arising from the Substance:** Non-combustible; decomposes at extreme high temperature (>200°C) to produce non-toxic carbon dioxide and water; no hazardous combustion gases generated; dust cloud may cause slight dust explosion risk in confined spaces with open flame (extremely low probability).

5.3 **Advice for Firefighters:** Wear standard fire-fighting protective gear (gloves,



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goggles, respirator) for large fires; avoid inhalation of thermal decomposition dust; eliminate dust cloud if possible; fight fire from a safe distance.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions: Wear dust mask (FFP1), nitrile rubber gloves and safety goggles; avoid dust inhalation and eye/skin contact; ensure good ventilation at the spill site; wear non-slip shoes as dust may cause slippery surfaces.**6.2 Environmental Precautions:** No special environmental precautions required; the product is biodegradable and non-polluting; sweep up spilled powder to avoid direct entry into water bodies (may cause temporary increase in organic matter).**6.3 Methods for Clean-Up:**

- **Small Spill:** Gently sweep up the powder with a brush and collect in a sealed plastic container for reuse or disposal; wipe the floor with water to remove residual dust and prevent slipping.
- **Large Spill:** Contain with plastic barriers; transfer to sealed drums for recycling; clean the contaminated area with water and dry thoroughly.**6.4 Reference:** For disposal, see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated area; use dust suppression measures (e.g., mist spray) to avoid fine powder formation and inhalation during mixing and transfer.
- Avoid prolonged exposure to humid air to prevent hygroscopic caking; seal containers immediately after use.
- Hygiene Measures: Wash hands thoroughly with soap and water after handling; do not eat, drink or smoke while operating the product.
- Mixing Note: Glucose monohydrate is freely soluble in water; dissolve in water first for uniform dispersion in liquid feed or premixes.

7.2 Conditions for Safe Storage

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse; keep container tightly sealed to prevent moisture absorption, caking and agglomeration; storage temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$.
- **Incompatibilities:** Strong oxidizing agents (e.g., hydrogen peroxide, chlorine-based disinfectants), strong acids (concentrated), high humidity environments.
- **Storage Class (TRGS 510):** 13 (Non-Hazardous Solids)
- **Shelf Life:** 24 months (unopened, under specified storage conditions); 6 months after opening (seal tightly and store in dry environment).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL): No specific OEL for glucose monohydrate; follow general dust exposure limits (TWA 10 mg/m³ for inert dust).
- ### 8.2 Exposure Controls
- **Engineering Controls:** Local exhaust ventilation (LEV) recommended for large-scale processing; dust collection system to reduce airborne powder concentration; dehumidification equipment to maintain low humidity in storage/processing areas.

- **Personal Protective Equipment (PPE):**

- Eye/Face Protection: Impact-resistant safety goggles with side shields (mandatory for bulk handling and mixing).
- Skin Protection: Nitrile rubber gloves (thickness ≥ 0.11 mm) and protective clothing for prolonged contact.
- Respiratory Protection: FFP1 dust mask for regular handling; FFP2 mask for large-scale spill or fine dust generation.
- Foot Protection: Non-slip safety shoes for all handling operations.
- Hand Washing: Provide clean water and soap for hand washing at the workplace; separate hand washing area for feed additive processing.

- **Environmental Exposure:** Install dust collection systems to prevent environmental release; collected dust can be reused in feed production.

SECTION 9: Physical and Chemical Properties

a) Physical State: Crystalline powder b) Color: White to off-white c) Odor: Odorless, no pungent smell d) Melting Point/Freezing Point: 86°C (loses water of crystallization); 146°C (anhydrous glucose melting) e) Boiling Point: Not applicable (decomposes before boiling) f) Flammability: Non-combustible g) Flammability Limits: Not applicable (extremely low dust explosion risk) h) Flash Point: Not applicable i) Autoignition Temperature: $> 300^{\circ}\text{C}$ j) Decomposition Temperature: $\geq 200^{\circ}\text{C}$ (decomposes to carbon dioxide and water) k) pH Value (10% aqueous solution, 25°C): 4.0-6.0 l) Viscosity: N/A (solid); 10-20 mPa·s (50% aqueous solution, 25°C) m) Solubility: Freely soluble in water (90 g/100 mL at 25°C); slightly soluble in ethanol; insoluble in ether and chloroform n) Partition Coefficient (n-octanol/water): log Kow = -3.2 (hydrophilic) o) Vapor Pressure (25°C): Negligible (< 0.0001 hPa) p) Density (25°C , solid): 1.56 g/cm³ q) Bulk Density: 0.6-0.9 g/cm³ r) Explosive Properties: Not explosive (extremely low dust explosion risk in confined spaces) s) Oxidizing Properties: None t) Hygroscopy: Moderately hygroscopic

SECTION 10: Stability and Reactivity

10.1 **Chemical Stability:** Stable under recommended storage conditions ($\leq 25^{\circ}\text{C}$, dry, sealed); stable in neutral and slightly acidic aqueous feed systems (pH 4.0-7.0).

10.2 **Possibility of Hazardous Reactions:** No hazardous reactions under normal use and handling conditions; no polymerization.

10.3 **Conditions to Avoid:** High temperature ($> 200^{\circ}\text{C}$), high humidity (relative humidity $> 60\%$), direct contact with strong oxidizing agents, prolonged exposure to open air.

10.4 **Incompatible Materials:** Concentrated oxidizing agents (hydrogen peroxide, chlorine), concentrated mineral acids (HCl, H₂SO₄), strong alkalis (concentrated NaOH/KOH).

10.5 **Hazardous Decomposition Products:** No hazardous decomposition products; decomposes into non-toxic carbon dioxide and water at high temperature; may form small amounts of caramelized substances at 150 - 200°C (non-toxic).

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:** Oral (Rat, LD₅₀) > 20,000 mg/kg (practically non-toxic); Dermal (Rabbit, LD₅₀) > 10,000 mg/kg (non-toxic via skin); Inhalation (Rat, LC₅₀) > 5 mg/m³ (4-hour exposure)
 - **Skin Corrosion/Irritation:** No irritation (rabbit test, 4-hour exposure)
 - **Serious Eye Damage/Eye Irritation:** Mild transient irritation (rabbit test, reversible within 24 hours)
 - **Respiratory/Skin Sensitization:** No sensitizing effects reported in standard tests and animal feed studies
 - **Germ Cell Mutagenicity:** No mutagenic effects in Ames test and chromosome aberration test
 - **Carcinogenicity:** IARC Class 3 (not classifiable as to its carcinogenicity to humans); used as a safe feed/food additive for decades
 - **Reproductive Toxicity:** No adverse reproductive effects in animal tests at feed grade exposure levels (up to 5000 mg/kg body weight)
 - **Specific Target Organ Toxicity:** No target organ toxicity at normal use levels; is a basic energy source for animal metabolism
 - **Aspiration Hazard:** Low (crystalline powder, moderate bulk density, no aspiration risk for animals/humans)
- 11.2 **Additional Information:** Toxicological data and long-term animal feed/food use confirm the safety of glucose monohydrate at approved levels; it is a natural monosaccharide and essential energy source for all living organisms with no toxic side effects.

SECTION 12: Ecological Information

12.1 **Toxicity:** Fish (Zebrafish, LC₅₀) > 10,000 mg/L (96-hour exposure); Daphnia (EC₅₀) > 5000 mg/L (48-hour exposure); Algae (EC₅₀) > 10,000 mg/L (72-hour exposure) – no toxic effects on aquatic organisms; slight growth promotion of aquatic algae at high concentrations (no ecological hazard). 12.2 **Persistence and Degradability:** Fully biodegradable (BOD₅/COD > 0.9) in aquatic and soil environments; degraded by microorganisms (yeast, bacteria) into carbon dioxide and water within 3-7 days; no residual pollution. 12.3 **Bioaccumulative Potential:** None; glucose is a basic nutrient, rapidly metabolized and utilized by all organisms, no bioaccumulation in aquatic or terrestrial organisms. 12.4 **Mobility in Soil:** High mobility (hydrophilic); readily leaches into soil water, but rapidly degraded by soil microorganisms; no long-term soil accumulation. 12.5 **PBT/vPvB Assessment:** Not classified as PBT/vPvB (fully biodegradable, non-toxic, no bioaccumulation) 12.6 **Endocrine Disrupting Properties:** No endocrine disrupting effects reported in standard tests and animal studies 12.7 **Other Adverse Effects:** No known adverse ecological impacts; the product is a natural carbohydrate that is environmentally benign and a basic nutrient for microorganisms.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste:** Uncontaminated waste can be reused as feed additive; contaminated waste can be disposed of as non-hazardous solid waste in accordance with local/national

regulations; can also be mixed with animal feed/soil for use (no environmental pollution); aqueous waste can be treated by biological wastewater treatment systems.

- **Packaging Waste:** Rinse empty containers thoroughly with water (rinse water can be added to feed premixes/aquatic water); dispose of rinsed packaging as non-hazardous waste or recycle (HDPE/paper packaging).13.2 **Disposal Notes:** Incineration is not recommended (wastes a valuable nutrient); landfilling is acceptable and the product will biodegrade in soil, serving as a nutrient for soil microorganisms; avoid large amounts of spilled powder entering water bodies to prevent temporary eutrophication (easily mitigated by microbial degradation).

SECTION 14: Transport Information

14.1 **UN Number:** ADR/RID: -; IMDG: -; IATA-DGR: -14.2 **UN Proper Shipping Name:** ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods14.3

Transport Hazard Class(es): ADR/RID: -; IMDG: -; IATA-DGR: -14.4 **Packaging Group:** ADR/RID: -; IMDG: -; IATA-DGR: -14.5 **Environmental Hazards:** ADR/RID: No; IMDG Marine Pollutant: No; IATA

-DGR: No14.6 **Special Precautions for User:** Transport at $\leq 25^{\circ}\text{C}$; avoid rain, moisture, direct sunlight and package collision during transport; prevent powder leakage; use moisture-proof packaging; do not transport with strong oxidizing agents, concentrated acids or alkalis.14.7

Incompatible Materials: Avoid transport with concentrated oxidizing agents, mineral acids, strong alkalis and high-humidity cargo.

SECTION 15: Regulatory Information

15.1 National Regulations (China)

- Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- Feed Hygiene Standard (GB 13078)
- Feed Additive Variety Catalogue (Ministry of Agriculture and Rural Affairs)
- National Food Safety Standard for Food Additives (GB 1886.20-2016) 15.2 **International**

Regulations

- GHS Classification (Rev. 9): Non-hazardous
- REACH (EU): Registered; not listed in SVHC Candidate List; complies with EC 1831/2003 (feed additives)
- TSCA (US): Listed on the TSCA Inventory; approved for animal feed/food use (FDA)
- Codex Alimentarius: Approved as a feed/food additive and carbohydrate source15.3 **Other Regulations:** Comply with local feed safety, environmental protection and transport regulations; follow the maximum addition limit for energy feed additives in animal feed.

SECTION 16: Other Information

- **Further Information:** This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519, GHS, IMDG and IATA standards. It is intended for safe handling, storage, transport and disposal of feed grade glucose monohydrate. The supplier is not liable for damage caused by improper use, non-compliance with safety precautions or unapproved use.



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- **Revision History:** First version (February 27, 2026)

