



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)

- Calcium Carbonate (Food Grade)

(Compliant with GB/T 16483, GB/T 17519; Adapts to GHS Rev.9, IMDG, IATA Standards) **Revision**

Date: 29 FEB 2026

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

1.1 Product Identifiers

- Product Name: Calcium Carbonate (Food Grade)
- Product Number: CC-20260229
- Brand: SIGALD
- CAS-No.: 471-34-1
- EINECS/EC-No.: 207-439-9
- MDL Number: MFCD00010900
- Synonyms: Food Grade Calcite; Calcium Carbonate Powder; Edible Calcium Supplement

1.2 Details of the supplier of the safety data sheet

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

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

1.4 Relevant Identified Uses and Uses Advised Against

- Identified Uses: Food additive (calcium supplement, anticaking agent, bulking agent, acidity regulator, whitening agent) for dairy, bakery, confectionery, beverage, cereal, nutritional food and processed food industries; also used in food pH adjustment and texture improvement.
- Uses Advised Against: Avoid excessive inhalation of dust for asthmatic individuals; no restricted uses for food-grade application.

SECTION 2: Hazards Identification

2.1 GHS Classification Not a hazardous substance or mixture (GHS 0 category); mild eye/respiratory irritation may occur from bulk dust inhalation (no formal GHS classification); no skin irritation.

2.2 GHS Label Elements

- Hazard Pictograms: None
 - Signal Word: None
 - Hazard Statements: None
 - Precautionary Statements:
 - P261: Avoid breathing dust
 - P304+P340: If inhaled: Move person to fresh air and keep comfortable for breathing
 - P337+P313: If eye irritation persists: Get medical advice/attention
- 2.3 Physical and Chemical Hazards No physical/chemical hazards; non-combustible, no explosion risk, no oxidative properties; non-hygroscopic, stable under normal food processing and storage conditions;

insoluble in water, soluble in dilute acids (reacts to produce CO₂); decomposes to CaO and CO₂ at high temperature (>825°C).2.4 Health Hazards

- No acute/chronic systemic toxicity at normal food use doses; mild transient eye/respiratory irritation in sensitive individuals from bulk dust contact; no skin irritation, sensitization or corrosion.
- Serves as an essential calcium supplement in the human body, participates in bone and teeth formation; excessive oral ingestion may cause mild gastrointestinal discomfort (constipation, bloating) with no long-term adverse effects.
- Natural inorganic mineral, widely used in food and pharmaceutical industry with confirmed food safety.2.5 Environmental Hazards

- Low environmental risk; inert in nature, no toxic effects on aquatic/terrestrial organisms at normal release levels; naturally exists in limestone, marble and other minerals.
- No acute aquatic toxicity (Zebrafish LC₅₀, 96h >20000 mg/L); no bioaccumulation potential (inorganic mineral, no adsorption to biological tissues); no soil/water pollution at normal use.2.6 Other HazardsDust may form slippery surfaces when wet; no other hazards for food-grade application.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure inorganic mineral
- Chemical Name: Calcium Carbonate
- Formula: CaCO₃
- Molecular Weight: 100.09
- CAS-No.: 471-34-1

Component	Classification	Concentration (w/w)	CAS No.	Hazard Statements
Calcium Carbonate	Non-hazardous	≥98.5%	471-34-1	None
Moisture	Non-hazardous	≤0.5%	7732-18-5	None
Inorganic Mineral Impurities (Mg, Fe)	Non-hazardous	≤1.0%	-	None

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **Inhalation:** Move victim to fresh air, keep airway open. Rinse mouth with water; no special treatment if no discomfort. Consult a doctor if coughing/irritation persists for more than 2 hours.
- **Skin Contact:** Brush off residual powder, rinse affected area with running water for 3-5 minutes; no further treatment needed (no skin irritation).
- **Eye Contact:** Rinse eyes cautiously with plenty of running water for 5-10 minutes (hold eyelids open). Remove contact lenses if present and easy to do. Consult a doctor only if mild irritation persists.



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- **Ingestion:** Rinse mouth with water, drink plenty of plain water (do not induce vomiting). Relieve constipation with dietary fiber if needed; consult a doctor if severe gastrointestinal discomfort (abdominal pain, bloating) occurs.
 - **Acute:** Mild transient eye/respiratory irritation from bulk dust; mild constipation/bloating from excessive oral ingestion.
 - **Delayed:** No known delayed toxic effects based on comprehensive toxicological testing.
- Indication of Immediate Medical Attention No immediate medical attention required for normal food-grade handling/ingestion; consult a doctor only if irritation symptoms persist or excessive intake causes severe discomfort.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable:** All common fire-extinguishing media (water spray, CO₂, dry chemical powder, foam).
- **Unsuitable:** None (no significant fire hazards associated with the product).
- Non-combustible under normal conditions; decomposes at high temperature (>825°C) to produce non-toxic calcium oxide and carbon dioxide; no hazardous gases or combustion products produced during fire or normal heating.
- Dust may form explosive mixtures in air at **extremely high concentrations** (no food processing/storage risk).
- Wear standard fire-fighting gear (self-contained breathing apparatus if dust concentration is high); fight fire from upwind.
- Cool exposed containers with water spray if near fire (prevent thermal expansion); avoid dust inhalation during firefighting.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions

- Wear N95 dust mask and disposable food-grade nitrile gloves for large spills; ensure good ventilation in the spill area (prevent dust accumulation).
 - No open flames/sparks required (no fire risk); no special PPE for small spills.
 - No special environmental precautions; the product is inert and non-toxic. Sweep up spilled powder to avoid entry into drains (no clogging risk).
 - **Small Spill:** Sweep into a sealed HDPE container for reuse; wipe the area with a dry cloth then a damp cloth (prevents slippery surfaces); dispose of waste as general non-hazardous waste.
 - **Large Spill:** Collect with a dust-free vacuum cleaner or shovel into sealed food-grade drums for reuse; no need for neutralization (inert, non-corrosive).
 - **Note:** Avoid wetting the powder during initial cleanup (prevents slippery surfaces).
- Reference to Other Sections See Section 13 for waste disposal; Section 8 for PPE details.



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SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated area with dust collection equipment (prevent dust inhalation/accumulation).
- Use dry food-grade equipment/tools (HDPE, stainless steel) for weighing/mixing; avoid generating excessive dust.
- Hygiene Measures: Wash hands/face thoroughly with soap and water after handling; do not eat/drink/smoke in the processing area.

- **Storage Type:** Store in a cool, dry, well-ventilated food-grade warehouse; temperature $\leq 30^{\circ}\text{C}$, relative humidity $\leq 70\%$ (no special humidity limit due to non-hygroscopic property).
 - **Containers:** Sealed food-grade HDPE plastic drums or paper bags with inner PE liner; label clearly with product name, batch number and "Avoid Dust Inhalation" mark.
 - **Incompatibilities:** Dilute strong acids (reacts to produce CO_2 gas), strong oxidizing agents; store separately from these materials.
 - **Separation:** Store separately from odorous substances (no odor absorption); keep away from high-temperature equipment ($>800^{\circ}\text{C}$).
 - **Shelf Life: 36 months** (unopened, in specified storage conditions); 12 months after opening (seal tightly after each use to avoid contamination).
- 7.2 Conditions for Safe Storage
- **Specific End Use:** Only for food production as calcium supplement and food additive; compliant with GB 2760/FDA/EC dosage limits (GMP for all food categories).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- No official occupational exposure limits (OEL) for food-grade calcium carbonate; follow general industrial dust limit (10 mg/m^3 TWA) for bulk handling (national occupational health standards).

- No PEL/REL established by US OSHA/NIOSH (non-hazardous substance).

- **Engineering Controls:** Local exhaust ventilation (air exchange rate ≥ 6 times/hour) for bulk handling/loading/unloading; closed mixing systems to minimize dust release.

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

- **Respiratory Protection:** N95 dust mask (for bulk dust handling; no respirator required for normal use).
- **Eye/Face Protection:** Food-grade safety glasses (recommended for large-scale dust handling to avoid eye contact).
- **Skin Protection:** Disposable food-grade nitrile gloves (optional for normal handling; mandatory for large-quantity processing).
- **Other:** Dust-proof food-grade overalls and non-slip shoes (for industrial processing).

Environmental Exposure Controls

- No special environmental exposure controls; use closed transfer systems to prevent dust release; no wastewater/air pollution associated with handling.

SECTION 9: Physical and Chemical Properties

Property	Details (25°C, 1 atm)
Physical State	White fine crystalline powder
Color	Pure white
Odor	Odorless
Taste	Tasteless
Melting Point	Decomposes at 825°C (no melting)
Boiling Point	Not applicable (solid, decomposes)
Flammability	Non-combustible (NFPA Flammability: 0)
Flash Point	Not applicable
Autoignition Temperature	>900°C
Vapor Pressure	<0.0001 kPa (25°C)
Vapor Density	Not applicable (solid)
Relative Density (Water=1)	2.71
pH Value (10% aqueous suspension)	8.0-10.0
Water Solubility	Insoluble (0.013 g/100mL at 25°C)
Solubility	Soluble in dilute acids (HCl, HAc); insoluble in ethanol, ether, benzene
Hygroscopy	Non-hygroscopic
Bulk Density	0.6-1.0 g/cm ³
Corrosivity	Non-corrosive to metal/plastic/glass (food-grade materials); inert in normal conditions
Decomposition	Decomposes at >825°C: $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2 \uparrow$

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: **Highly stable** under all normal food processing and storage conditions; inert in neutral/alkaline food systems, reacts with dilute acids to produce CO₂ gas (mild reaction in food acidic systems). 10.2 Possibility of Hazardous Reactions:

- Reacts with **dilute strong acids** (HCl, H₂SO₄) to produce CO₂ gas (no violent reaction at normal food dosage); no reaction with food-grade weak acids (citric acid, lactic acid) at room temperature.
 - Decomposes at high temperature (>825°C) to form non-toxic calcium oxide and CO₂ (no food processing reaches this temperature).
- 10.3 Conditions to Avoid: Bulk dust inhalation, long-term contact with dilute strong acids, high temperature (>825°C). 10.4 Incompatible Materials: Concentrated dilute strong acids, strong oxidizing agents, acidic industrial chemicals; no incompatible materials for common food-grade ingredients. 10.5 Hazardous Decomposition Products: Non-toxic calcium oxide and carbon dioxide (decomposes >825°C); no toxic gases produced at food processing temperatures. 10.6 Hazardous Polymerization: Will not occur under any conditions (inorganic mineral, no polymerization).

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:** Oral (Rat, LD₅₀) >5000 mg/kg; Dermal (Rabbit, LD₅₀) >20000 mg/kg; Inhalation (Rat, LC₅₀) >5000 mg/m³/4h – **Practically non-toxic.**
 - **Skin Corrosion/Irritation:** No skin irritation (Rabbit, 24h exposure; GHS 0 category).
 - **Serious Eye Damage/Eye Irritation:** Mild transient eye irritation from bulk dust (GHS 0 category); no irreversible eye damage.
 - **Respiratory Irritation:** Mild transient respiratory irritation from bulk dust (GHS 0 category).
 - **Germ Cell Mutagenicity:** Negative (Ames test, chromosome aberration test; no genotoxicity).
 - **Carcinogenicity:** IARC Group 3 (not classifiable as to carcinogenicity to humans; no evidence of carcinogenicity).
 - **Reproductive Toxicity:** No reproductive/developmental toxicity (rat feeding test at 10000 mg/kg/day; safe for maternal/fetal health, essential calcium source for fetus).
 - **Specific Target Organ Toxicity:** No single/chronic target organ toxicity at normal dietary levels; essential calcium supplement for human body, no adverse metabolic effects.
- 11.2 Additional Information
Calcium carbonate is an inorganic mineral approved by FAO/WHO, FDA, EFSA and CFSA as a safe food additive and calcium supplement; no adverse health effects at normal food application doses; suitable for all population groups including infants, children, the elderly and pregnant women.

SECTION 12: Ecological Information

12.1 Toxicity:

- Aquatic: Zebrafish LC₅₀ (96h) >20000 mg/L, Daphnia EC₅₀ (48h) >20000 mg/L – **Non-toxic;** no adverse effects on aquatic organisms at any normal use level.
 - Terrestrial: No toxic effects on soil microorganisms/plants; calcium and carbonate ions are essential nutrients for plants, promoting plant growth (no negative environmental impact).
- 12.2 Persistence and Degradability: **Inert;** does not biodegrade but naturally integrates into the earth's crust (main component of limestone); no environmental persistence or accumulation.
- 12.3 Bioaccumulative Potential: Log Kow = -4.0 (estimated) – **No bioaccumulation potential** (insoluble inorganic mineral, no adsorption to biological tissues/organisms).
- 12.4 Mobility in Soil: Low mobility (insoluble in water); binds to soil particles, no leaching risk to groundwater.
- 12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB (inert, non-toxic, no bioaccumulation); meets all environmental safety criteria.
- 12.6 Other Adverse Effects: No known long-term ecological effects; natural mineral, no pollution to soil/water/air at normal use.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Uncontaminated Product Waste:** Reuse directly (no quality degradation); expired/contaminated waste can be disposed of as general solid waste (non-hazardous) or mixed into soil (serves as calcium fertilizer for plants).

- **Packaging Waste:** Rinse containers thoroughly with water (meet food hygiene standards); recycle/dispose of as non-hazardous plastic/paper waste (no residual hazards).13.2 Disposal Compliance: Comply with China General Solid Waste Pollution Control Law, Food Safety Law and local environmental regulations; no hazardous waste disposal procedures required.

SECTION 14: Transport Information

14.1 UN Number: None (non-hazardous substance)14.2 UN Proper Shipping Name: None (not a hazardous good)14.3 Transport Hazard Class(es): None14.4 Packaging Group: None14.5 Environmental Hazards: IMDG Marine Pollutant: **No**; ADR/RID: No14.6 Special Precautions for User

- Transport in sealed food-grade packaging (HDPE drums, paper bags) to prevent dust release and contamination.
- Use covered dry transport vehicles; avoid rain, snow and severe collision during transport (no temperature limit for transport).
- Secure containers to prevent tipping/collision; avoid rough handling (prevents packaging damage and dust release).
- Do not mix with dilute strong acids, strong oxidizing agents or acidic industrial chemicals in the same vehicle; transport with other non-hazardous food additives/raw materials is allowed.
- No special transport documentation required (non-hazardous food additive); comply with general food raw material transport regulations.

SECTION 15: Regulatory Information

15.1 National/International Regulations

- **China:** Compliant with GB 2760 (National Food Safety Standard for Food Additives), GB 1886.214-2016 (Food Additive Calcium Carbonate); classified as non-hazardous chemical; approved for use in **all food categories** with GMP dosage limits.
- **EU:** Compliant with EC 1333/2008; E170 (food additive code); REACH registered (no SVHC); approved for food use with GMP dosage limits.
- **US:** TSCA listed (CAS 471-34-1); FDA GRAS (21 CFR Part 184.1191); approved for use in all food and beverage categories with no dosage limit (GMP).
- **International:** Compliant with Codex Alimentarius Commission (CAC) standards; FCC/USP certified (food grade); approved by FAO/WHO JECFA; recognized as a safe food additive and calcium supplement worldwide.15.2 Other Regulations: Comply with local food safety, occupational health and environmental regulations; food production use must meet GMP/HACCP standards; calcium supplement products must comply with national nutritional supplement labeling regulations.

SECTION 16: Other Information

- **Further Information:** This MSDS is for **Food Grade Calcium Carbonate (CAS 471-34-1)**, compliant with GB/T 16483, GB/T 17519 and GHS Rev.9. It applies to safe handling, storage, transport and disposal of the product for food production use. The supplier is not liable for damage caused



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by improper industrial use (non-food) or non-compliance with storage/handling precautions (e.g., mixing with dilute strong acids).

- **Revision Date:** 29 FEB 2026
- **Version:** V1.0

