



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 Propionate (Food Grade)

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

Date: 20 FEB 2026

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

1.1 Product Identifiers

- Product Name: Calcium Propionate (Food Grade)
- Product Number: CP-20260220
- Brand: SIGALD
- CAS-No.: 4075-81-4
- EINECS/EC-No.: 223-795-8
- MDL Number: MFCD00013002
- Synonyms: Calcium dipropionate; Food Grade Mold Inhibitor; Propanoic acid calcium salt

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 (preservative, mold inhibitor, antiseptic) for bakery, pastry, dairy, cereal, processed meat, condiment and beverage industries; feed preservative (food-grade derivative).
- Uses Advised Against: Not for pharmaceutical injection; avoid excessive use beyond food additive dosage limits.

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).

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; slightly hygroscopic, stable under normal food processing and storage conditions; highly soluble in water, slightly soluble in ethanol; decomposes at high temperature (>300°C) to non-toxic products.

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.
- Metabolizes to propionic acid (a natural fatty acid in human body) and calcium ions; excessive oral ingestion may cause mild gastrointestinal discomfort (abdominal distension, diarrhea) with no long-term adverse effects.
- Approved food preservative with long-term safe use history in food industry.

2.5 Environmental Hazards

- Low environmental risk; biodegradable (metabolized by microorganisms to CO₂ and H₂O); no toxic effects on aquatic/terrestrial organisms at normal release levels.
- No acute aquatic toxicity (Zebrafish LC₅₀, 96h >20000 mg/L); no bioaccumulation potential (organic calcium salt, rapid biodegradation); no soil/water pollution at normal use.

2.6 Other Hazards Slight hygroscopicity may cause minor caking under high humidity; no other hazards identified.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure organic calcium salt
- Chemical Name: Calcium Propionate
- Formula: C₆ H₁₀ CaO₄
- Molecular Weight: 186.22
- CAS-No.: 4075-81-4

Component	Classification	Concentration (w/w)	CAS No.	Hazard Statements
Calcium Propionate	Non-hazardous	≥98.0%	4075-81-4	None
Moisture	Non-hazardous	≤1.0%	7732-18-5	None
Inorganic Salt Impurities	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 gastrointestinal discomfort with light diet if needed; consult a doctor if severe diarrhea/abdominal pain occurs.

4.2 Most Important Symptoms and Effects

- Acute: Mild transient eye/respiratory irritation from bulk dust; mild abdominal distension/diarrhea from excessive oral ingestion.
 - Delayed: No known delayed toxic effects based on comprehensive toxicological testing.
- 4.3 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).

5.2 Special Hazards Arising from the Substance or Mixture

- Non-combustible under normal conditions; decomposes at high temperature (>300°C) to produce non-toxic calcium oxide, propene 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).

5.3 Advice for Firefighters

- 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.

6.2 Environmental Precautions

- No special environmental precautions; the product is biodegradable and non-toxic. Sweep up spilled powder to avoid entry into drains (no clogging risk).

6.3 Methods and Materials for Containment and Cleaning Up

- **Small Spill:** Sweep into a sealed HDPE container for reuse; wipe the area with a dry cloth then a damp cloth; 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 (mild alkaline, non-corrosive).



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- **Note:** Avoid wetting the powder during initial cleanup to prevent slippery surfaces.
- 6.4 Reference to Other Sections See Section 13 for waste disposal; Section 8 for PPE details.

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.

7.2 Conditions for Safe Storage

- **Storage Type:** Store in a cool, dry, well-ventilated food-grade warehouse; temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 65\%$ (prevents hygroscopic caking).
- **Containers:** Sealed food-grade HDPE plastic drums or paper bags with inner PE liner; label clearly with product name, batch number and "Keep Dry" mark.
- **Incompatibilities:** Strong acids (reacts to produce propionic acid), strong oxidizing agents, high-temperature environments ($>300^{\circ}\text{C}$); store separately from these materials.
- **Separation:** Store separately from odorous substances (no odor absorption); keep away from direct sunlight.
- **Shelf Life: 24 months** (unopened, in specified storage conditions); 6 months after opening (seal tightly after each use to avoid moisture and contamination).

7.3 Specific End Use Only for food production as preservative/mold inhibitor; 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 propionate; follow general industrial dust limit ($10\text{ mg}/\text{m}^3$ TWA) for bulk handling (national occupational health standards).
- No PEL/REL established by US OSHA/NIOSH (non-hazardous substance).

8.2 Exposure Controls

- **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 crystalline powder
Color	Pure white
Odor	Slight characteristic propionate odor
Taste	Slightly salty
Melting Point	300°C (decomposes, no melting)
Boiling Point	Not applicable (solid, decomposes)
Flammability	Non-combustible (NFPA Flammability: 0)
Flash Point	Not applicable
Autoignition Temperature	>350°C
Vapor Pressure	<0.0001 kPa (25°C)
Vapor Density	Not applicable (solid)
Relative Density (Water=1)	1.32
pH Value (5% aqueous solution)	7.0-9.5
Water Solubility	35 g/100mL (25°C), highly soluble
Solubility	Slightly soluble in ethanol; insoluble in ether, benzene, chloroform
Hygroscopy	Slightly hygroscopic
Bulk Density	0.8-1.1 g/cm ³
Corrosivity	Non-corrosive to metal/plastic/glass (food-grade materials); mild alkaline
Decomposition	Decomposes at >300°C to CaO, C ₃ H ₆ and CO ₂ (non-toxic products)

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: **Highly stable** under normal food processing and storage conditions (≤25°C, dry); stable in neutral/alkaline food systems, reacts with strong acids to produce propionic acid (no reaction with food-grade weak acids).

10.2 Possibility of Hazardous Reactions:

- Reacts with **strong acids** (HCl, H₂SO₄) to produce propionic acid gas (mild reaction at normal food dosage); no hazardous reactions with common food-grade ingredients.
- Decomposes at high temperature (>300°C) to non-toxic products (no food processing reaches this temperature).

10.3 Conditions to Avoid: High humidity (caking), high temperature (>300°C), contact with strong acids/strong oxidizing agents, direct sunlight.

10.4 Incompatible Materials: Concentrated strong acids, strong oxidizing agents (hydrogen peroxide, potassium permanganate), acidic industrial chemicals; no incompatibility with common food additives.

10.5 Hazardous Decomposition Products: Non-toxic calcium oxide, propene and carbon dioxide (decomposes >300°C); no toxic gases produced at food processing temperatures.

10.6 Hazardous Polymerization: Will not occur under any conditions (organic calcium salt, 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).
- **Specific Target Organ Toxicity:** No single/chronic target organ toxicity at normal dietary levels; metabolizes to natural fatty acid and calcium ions, no adverse metabolic effects.

11.2 Additional Information Calcium propionate is an organic calcium salt approved by FAO/WHO, FDA, EFSA and CFSA as a safe food preservative; 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; propionate ions serve as a carbon source for soil microbes, calcium ions promote plant growth (no negative environmental impact).

12.2 Persistence and Degradability: **Fully biodegradable;** metabolized by soil/aquatic microorganisms to CO₂, H₂O and calcium ions within 7-14 days; no environmental persistence.

12.3 Bioaccumulative Potential: Log Kow = -2.5 (estimated) – **No bioaccumulation potential** (highly water-soluble organic calcium salt, no adsorption to biological tissues/organisms).

12.4 Mobility in Soil: High mobility (soluble in water); no leaching risk to groundwater (ions are naturally filtered/absorbed by soil).

12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB (biodegradable, non-toxic, no bioaccumulation); meets all environmental safety criteria.

12.6 Other Adverse Effects: No known long-term ecological effects; mild alkaline property may slightly adjust water/soil pH at excessive release (no pollution at normal use).

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Uncontaminated Product Waste:** Reuse directly (no quality degradation if dry); expired/contaminated waste can be disposed of as general solid waste (non-hazardous) or dissolved in water for biological wastewater treatment (biodegradable, no impact on treatment systems).
- **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): None 14.4 Packaging Group: None 14.5 Environmental Hazards: IMDG Marine Pollutant: **No**; ADR/RID: No

14.6 Special Precautions for User

- Transport in sealed food-grade packaging (HDPE drums, paper bags) to prevent dust release, hygroscopic caking and contamination.
- Use covered dry transport vehicles; avoid rain, snow, moisture and high temperature (>25°C) during transport (maintain relative humidity ≤65%).
- Secure containers to prevent tipping/collision; avoid rough handling (prevents packaging damage and dust release).
- Do not mix with 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 1886.21-2016 (Food Additive Calcium Propionate); classified as non-hazardous chemical; approved for use in **all food categories** with GMP dosage limits.

- **EU:** Compliant with EC 1333/2008; E282 (food additive code); REACH registered (no SVHC); approved for food use with GMP dosage limits.
- **US:** TSCA listed (CAS 4075-81-4); FDA GRAS (21 CFR Part 184.1221); 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 preservative worldwide.

15.2 Other Regulations: Comply with local food safety, occupational health and environmental regulations; food production use must meet GMP/HACCP standards; preservative use must comply with national food additive dosage regulations.

SECTION 16: Other Information

- **Further Information:** This MSDS is for **Food Grade Calcium Propionate (CAS 4075-81-4)**, 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 by improper industrial use (non-food) or non-compliance with storage/handling precautions (e.g., mixing with strong acids).
- **Revision Date:** 20 FEB 2026
- **Version:** V1.0