



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)

- **Feed Grade Calcium Formate**(Compliant with GB/T 16483, GHS Rev.9, IMDG, IATA)**Revision**

Date: 15 FEB 2026

SECTION 1: Identification

1.1 Product Identifiers

- Name: Calcium Formate (Feed Grade)
- Product Number: CF-FEED-20260215
- Brand: SIGALD
- CAS No.: 544-17-2
- Synonyms: Calcium diformate; Formic acid calcium salt; Feed Grade Calcium Diformate
- Molecular Formula: $C_2H_2CaO_4$
- Molecular Weight: 130.10 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; organic calcium supplement, acidifier and mold inhibitor for livestock, poultry and aquaculture animals, improves feed digestibility and animal growth performance.
- **Uses Advised Against:** Not for pharmaceutical/medical use; no direct human consumption in large quantities.

SECTION 2: Hazards Identification

2.1 GHS Classification

- Skin irritation (Category 2)
- Eye irritation (Category 2)

2.2 GHS Label Elements

- Pictogram: (Exclamation Mark)
- Signal Word: **Warning**
- Hazard Statements:
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
- Precautionary Statements:
 - P264: Wash hands thoroughly after handling
 - P280: Wear protective gloves/eye protection
 - P302+P352: If on skin: Wash with plenty of soap and water



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- P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

2.3 Summary White odorless crystalline powder, non-flammable, non-explosive, slightly hygroscopic. Causes mild skin and serious eye irritation upon direct contact; dust inhalation may cause mild respiratory discomfort in sensitive individuals. Non-toxic to animals at recommended feed levels; acts as an essential calcium supplement and feed acidifier. Environmentally friendly, biodegradable, low aquatic toxicity.

SECTION 3: Composition/Information on Ingredients

- **Substance/Mixture:** Pure substance ($\geq 98.0\%$)
- **Active Component:** Calcium Formate (CAS 544-17-2), 98.0-99.0% (w/w)
- **Impurities:** Trace water and inorganic salts ($\leq 2.0\%$), no hazardous ingredients
- **Hazardous Components:** None (at feed grade concentrations)

SECTION 4: First Aid Measures

4.1 First-Aid Measures

- **Inhalation:** Move victim to fresh air, keep at rest. If coughing/irritation persists, seek medical advice.
- **Skin Contact:** Immediately rinse contaminated skin with plenty of running water for 10-15 minutes. Remove contaminated clothing; wash clothing before reuse. If irritation develops, seek medical attention.
- **Eye Contact:** Hold eyelids open and rinse thoroughly with clean running water for at least 15 minutes. Remove contact lenses if present. Consult an ophthalmologist if irritation/pain persists.
- **Ingestion (Human):** Rinse mouth with plenty of water. Drink a glass of water/milk to dilute. Do not induce vomiting. Seek medical advice if gastrointestinal discomfort (nausea/abdominal pain) occurs.

4.2 Key Symptoms: Mild skin redness, eye conjunctival irritation, temporary respiratory

discomfort from dust; no acute toxic effects at low exposure. 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. Decomposes at high temperatures ($>300^\circ\text{C}$) to produce non-toxic calcium oxide, carbon dioxide and water; no

hazardous combustion gases or smoke. No explosion risk. 5.3 Firefighter Advice: Wear standard fire-fighting gear (dust mask recommended for heavy powder). Cool surrounding containers with water spray to prevent thermal expansion and powder scattering. Avoid inhalation of decomposition fumes.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions: Wear N95 dust mask, nitrile gloves and safety goggles. Ensure good ventilation in the spill area; avoid creating dust clouds. 6.2 Environmental Precautions: Prevent

spilled powder from entering drains/sewers/water bodies. Sweep up residual powder to avoid minor soil/water pH change (low toxicity, no long-term environmental impact).

6.3 Cleanup Methods:

- **Small Spill:** Sweep into a sealed HDPE container for reuse/disposal. Wipe the area with a damp cloth to eliminate dust.
- **Large Spill:** Collect with a dust-free vacuum cleaner into sealed drums. Avoid contact with excessive water to prevent hygroscopic caking.

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/mixing.
- Use dry equipment/tools (slightly hygroscopic); avoid contact with strong acids, strong oxidizers and high-temperature environments (>200°C).
- Hygiene Measures: Wash hands with soap and water after handling; avoid touching eyes/mouth before hand washing.

7.2 Storage Conditions

- **Temperature:** ≤25°C; store in a cool, dry, well-ventilated warehouse
- **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 conditions)**
- **Incompatibilities:** Strong acids (e.g., HCl, H₂SO₄), strong oxidizing agents (e.g., KMnO₄, H₂O₂)
- **Segregation:** Store separately from acids, oxidizers 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 calcium formate; follow general dust limit (10 mg/m³ TWA, respirable fraction)

8.2 Engineering Controls

- Local exhaust ventilation in bulk handling/loading areas to control dust concentration.
- Closed mixing systems for feed production to minimize dust release.

8.3 Personal Protective Equipment (PPE)

- **Respiratory:** N95 dust mask (for bulk handling/loading/unloading)
- **Eye/Face:** Chemical splash goggles (mandatory for all operations)
- **Skin:** Nitrile rubber gloves and protective overalls (for direct/prolonged contact)
- **Other:** Dust-proof shoes and hair cover (for large-scale production)

SECTION 9: Physical and Chemical Properties

Property	Details (25°C, 1 atm)
Physical State	White crystalline powder
Odor	Odorless
Taste	Slightly saline taste
pH Value (5% aqueous)	6.5-8.0
Melting Point	300°C (decomposes)
Boiling Point	N/A (decomposes before boiling)
Flash Point	Not applicable (non-combustible)
Flammability	Non-combustible
Hygroscopy	Slightly hygroscopic
Water Solubility	Soluble (16.6 g/100 mL at 25°C)
Ethanol Solubility	Insoluble
Bulk Density	0.90-1.10 g/cm ³
True Density	2.02 g/cm ³
Vapor Pressure	<0.0001 kPa
Decomposition Temperature	>300°C
Hardness	Mohs 2-3 (crystalline)

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage/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. Reacts with strong acids to produce formic acid; decomposes at high temperature to form non-toxic products. 10.3 Conditions to Avoid: High humidity, high temperature (>300°C), strong acids/oxidizers, prolonged exposure to open air. 10.4 Incompatible Materials: Concentrated hydrochloric acid, sulfuric acid, potassium permanganate, hydrogen peroxide. 10.5 Hazardous Decomposition Products: Calcium oxide, carbon dioxide, water (no toxic fumes or residues). 10.6 Hazardous Polymerization: Will not occur.

SECTION 11: Toxicological Information

11.1 Toxicological Effects

- **Acute Toxicity:** Oral (Rat) LD₅₀ = 2650 mg/kg; Dermal (Rabbit) LD₅₀ >5000 mg/kg; Inhalation (Rat) LC₅₀ >10 mg/m³ (4h) (Low toxicity, low risk for normal handling)
- **Skin Corrosion/Irritation:** Mild irritation (GHS Category 2) – redness/erythema in rabbit tests
- **Eye Irritation:** Serious irritation (GHS Category 2) – conjunctival redness/edema and lacrimation
- **Respiratory Irritation:** Mild irritation from dust inhalation (no chronic effects)
- **Carcinogenicity:** IARC Classification – Group 3 (not classifiable); no carcinogenic risk
- **Reproductive Toxicity:** No reproductive toxicity; essential calcium source for animal fetal development
- **Target Organ Toxicity:** No single/repeated exposure target organ toxicity at normal levels
- **Sensitization:** No skin/respiratory sensitization effects reported

11.2 Additional Information: Calcium formate is a safe feed additive; toxic effects only at extremely high oral doses, no cumulative toxicity in animals.

SECTION 12: Ecological Information

12.1 Aquatic Toxicity: LC_{50} (Zebrafish, 96h) = 2200 mg/L; EC_{50} (Daphnia, 48h) = 2800 mg/L (Low toxicity to aquatic organisms)
12.2 Persistence and Degradability: Fully biodegradable ($BOD_5 / COD > 0.7$) in soil/aquatic environments; degraded by microorganisms into calcium ions and organic carbon within 14-21 days
12.3 Bioaccumulative Potential: No bioaccumulation potential (water-soluble, calcium ion is an essential mineral for organisms)
12.4 Mobility in Soil: Moderate mobility (water-soluble); calcium ions bind to soil particles, minor leaching risk, can improve soil calcium content
12.5 Environmental Impact: Environmentally friendly; at recommended feed levels, excretion in manure supplements soil calcium and has no adverse effect on soil/water. Large spills may cause temporary water pH rise, no long-term pollution.

SECTION 13: Disposal Considerations

13.1 Product Waste: Expired/caked calcium formate 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 (calcium supplement) is allowed.
13.2 Packaging Waste: Rinse packaging thoroughly with water; 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:** Calcium Formate (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.
 3. Avoid mixing with strong acids, oxidizers and non-feed grade chemicals in the same vehicle.
 4. Protect from direct sunlight and high temperature ($\leq 30^{\circ}C$) during transport in summer.

SECTION 15: Regulatory Information

- **China:** Compliant with **GB 13078.1-2017 (Feed Hygiene Standard)**, listed in the *National Catalogue of Feed Additives* (calcium supplement and feed acidifier).
- **EU:** Compliant with EC 1831/2003 (Feed Additives Regulation), REACH registered (544-17-2), not in SVHC List.
- **US:** TSCA listed (544-17-2), approved by FDA/CVM for animal feed use (21 CFR Part 573), meets NRC nutrient standards.
- **International:** Complies with Codex Alimentarius Commission and OIE feed additive safety standards; accepted globally for animal feed use as calcium supplement and acidifier.



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SECTION 16: Other Information

- **Disclaimer:** This MSDS is for feed grade calcium formate (544-17-2) only. Misuse for non-feed purposes (e.g., human consumption, industrial chemical synthesis) is at the user's sole risk. The supplier is not liable for damages from improper handling/storage/transport.
- **Key Note:** The product is slightly hygroscopic; ensure sealed storage and dry handling to prevent caking and maintain product quality.
- **Revision Date:** 15 FEB 2026

