



# 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)

(Complies with GB/T 16483, GB/T 17519, GHS Rev.9, IMDG and IATA Standards)

**Product Name:** Calcium Ascorbate **Product Number:** CAA-20260220 **Brand:** SIGALD **CAS Number:** 5743-28-2 **Revision Date:** 20 FEB 2026

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

#### 1.1 Product Identifiers

- Product Name: Calcium Ascorbate
- Synonyms: L-Ascorbic acid calcium salt dihydrate; Vitamin C calcium salt; Ascorbate calcium
- CAS-No.: 5743-28-2
- Molecular Formula:  $C_{12}H_{14}CaO_{12} \cdot 2H_2O$
- Molecular Weight: 426.35 g/mol

#### 1.2 Supplier Details

- 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 Contact: +86-021-50350029 (24h CHEMTREC)

#### 1.4 Identified Uses & Uses Advised Against

- **Identified Uses:** Food additive (antioxidant/nutritional fortifier); pharmaceutical raw material (Vitamin C/calcium supplement); cosmetic additive (antioxidant/whitening); feed additive (immunity enhancer).
- **Uses Advised Against:** Not for direct intravenous injection; not for high-concentration industrial heavy metal chelation; not for mixing with strong oxidizing agents in large quantities.

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

- Not a hazardous substance or mixture (GHS 0 Category); no acute/chronic hazard classification.

#### 2.2 GHS Label Elements

- Hazard Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements: None

**2.3 Physical & Chemical Hazards:** Non-combustible; no explosion, corrosion, oxidation or other physical and chemical hazards under normal use and storage conditions.

**2.4 Health Hazards:** Non-toxic, non-irritating to skin and mucous membranes; mild nausea, abdominal distension or diarrhea may occur if ingested in excessive single quantities; no acute/chronic toxic effects for skin contact or inhalation.

**2.5 Environmental Hazards:** Environmentally friendly, fully



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biodegradable; non-toxic to aquatic organisms and soil microorganisms; no bioaccumulation, no environmental pollution risk at normal application concentrations.2.6 **Other Hazards:** No additional hazards identified.

## SECTION 3: Composition/Information on Ingredients

- **Substance Type:** Pure Substance
- **Active Ingredient:** Calcium Ascorbate (100%, CAS:5743-28-2)
- **Key Components:** Ascorbic acid moiety ( $\geq 80\%$ ), calcium ion (9.0-10.5%)
- **Impurities:** No hazardous impurities present above specified limit values; heavy metal and harmful substance content meets food/pharmaceutical grade standards.

## SECTION 4: First Aid Measures

### 4.1 First-Aid Procedures

- **Inhalation:** Move to fresh air immediately; no special treatment if no discomfort; drink a small amount of water if coughing occurs, no medical attention needed in most cases.
- **Skin Contact:** Rinse the affected area with plenty of running water for 3-5 minutes; remove contaminated clothing and wash before reuse; no special treatment for non-irritation.
- **Eye Contact:** Rinse eyes thoroughly with plenty of running water for 5-10 minutes (lift upper/lower eyelids occasionally); remove contact lenses if worn; consult a doctor only if irritation persists.
- **Ingestion:** Rinse mouth with water; drink an appropriate amount of water to promote excretion if excessive quantity is ingested; consult a doctor only if severe gastrointestinal discomfort (nausea, diarrhea) occurs.

### 4.2 Key Symptoms & Effects

- **Acute Effects:** Mild gastrointestinal discomfort (nausea, abdominal distension) may occur after excessive single ingestion; no obvious acute toxicity for skin/inhalation contact.
- **Delayed Effects:** No known delayed toxic effects based on current scientific research and practical application data.

4.3 **Medical Attention Indication:** No immediate medical attention required under normal use and accidental contact conditions; seek medical advice only if excessive ingestion causes persistent severe gastrointestinal symptoms.

## SECTION 5: Firefighting Measures

### 5.1 Extinguishing Media

- **Suitable:** Water spray, dry powder, foam, carbon dioxide ( $\text{CO}_2$ ); any common extinguishing agent can be used.
- **Unsuitable:** No limitations on extinguishing media.

### 5.2 Special Hazards from Combustion/Decomposition

- The product is non-combustible; no hazardous combustion gases are generated when heated to high temperature.



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- Decomposes at >200°C to produce carbon dioxide, water vapor and calcium oxide, no toxic or harmful gas release; no explosion risk under fire conditions.

### 5.3 Advice for Firefighters

- Wear standard fire-fighting protective gear (fire suit, gloves, goggles); no special breathing apparatus is needed.
- Fight the fire from a safe distance; prevent fire runoff from entering water bodies for general environmental protection purposes (no actual pollution risk).

## SECTION 6: Accidental Release Measures

### 6.1 Personal Precautions & Emergency Procedures

- No special personal protective equipment for small spills; wear nitrile rubber gloves and a dust mask for large-scale powder spills to avoid dust inhalation.
- Ensure good ventilation in the spill area; no need to evacuate personnel for ordinary spills.

### 6.2 Environmental Precautions

- The product is biodegradable and non-toxic; small spills can be cleaned with water and discharged into the sewage system directly.
- Collect large spills to avoid excessive calcium ions entering water bodies and causing slight water hardness increase.

### 6.3 Containment & Cleaning Methods

- **Small Spill:** Sweep up the spilled powder with a dry clean brush/spatula, collect in a sealed bag for reuse or proper disposal; wipe the area with water and dry.
- **Large Spill:** Contain with dry sand to prevent spread, collect the powder in a sealed HDPE drum for reuse; clean the area with plenty of water, and discharge the cleaning water into the sewage treatment system after dilution.

## SECTION 7: Handling and Storage

### 7.1 Handling Precautions

- Handle in a cool, dry and well-ventilated area; avoid direct sunlight, moisture and high temperature during operation.
- Wear a dust mask for large-scale weighing and mixing to avoid dust inhalation; wash hands with water after handling.
- Avoid mixing with strong oxidizing agents, concentrated acids, heavy metal salts ( $\text{Fe}^{3+}$ ,  $\text{Cu}^{2+}$ ); avoid long-term contact with air to prevent oxidation.
- No professional training required for handling; ordinary personnel can operate under normal conditions.

### 7.2 Storage Conditions & Incompatibilities

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse; temperature  $\leq 25^{\circ}\text{C}$ , relative humidity  $\leq 60\%$ ; keep containers tightly sealed with aluminum foil or HDPE material to prevent moisture absorption and oxidation.



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- **Incompatibilities:** Strong oxidizing agents (hydrogen peroxide, potassium permanganate, chlorine water), concentrated mineral acids, heavy metal compounds (ferric chloride, copper sulfate), high temperature (>80°C) and high humidity (>70%).
- **Storage Classification:** Non-hazardous chemical storage area; food grade products must be stored in a dedicated food additive area, separate from non-food grade chemicals and toxic/harmful substances.
- **Shelf Life:** 24 months (unopened, room temperature); 36 months (unopened, 2-8°C); 6 months after opening (sealed, dry).

### SECTION 8: Exposure Controls/Personal Protection

8.1 **Exposure Limits:** No official occupational exposure limits (OEL) for Calcium Ascorbate; the product is non-toxic, no special exposure limit required.

- **Engineering Controls:** Basic ventilation in the handling area to avoid dust accumulation; no special exhaust or dust extraction equipment needed.
- **Personal Protective Equipment:**
  - Eye/Face: Safety glasses recommended for large-scale handling to avoid powder splashing; no protection for routine operation.
  - Skin: Nitrile rubber gloves recommended for prolonged contact; no protection for short-term contact.
  - Respiratory: N95 dust mask recommended for large-scale powder handling; no respiratory protection for routine operation.
  - Hand: Replace gloves if torn/contaminated; wash hands with water after glove removal.

### SECTION 9: Physical and Chemical Properties

- Physical State: Crystalline powder
- Color: White to pale yellow
- Odor/Taste: Odorless, slightly sour and sweet (food grade)
- Melting Point: Decomposes at >160°C (no obvious melting point)
- Boiling Point: Not applicable (decomposes before boiling)
- Flammability: Non-combustible
- Flash Point/Autoignition Temp.: Not applicable
- Solubility: Soluble in water (62 g/100 mL, 25°C); slightly soluble in ethanol; insoluble in chloroform/ether/benzene
- Density (20°C): 1.70 g/cm<sup>3</sup> (powder)
- pH Value: 6.0-7.5 (5% aqueous solution, 25°C)
- Vapor Pressure (25°C): <0.0001 hPa (negligible)
- Particle Size: 90% passing 80 mesh (food grade); 90% passing 100 mesh (pharmaceutical grade)
- Hygroscopy: Slightly hygroscopic
- Decomposition Temp.: >160°C (decomposes into ascorbic acid and calcium oxide)



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- Antioxidant Property: Strong reducing property, scavenges free radicals and reduces metal ions.

### SECTION 10: Stability and Reactivity

10.1 **Chemical Stability:** Stable under recommended storage conditions; more stable than free ascorbic acid in aqueous solution, not easy to oxidize; stable at room temperature for long-term storage.

10.2 **Hazardous Reactions:** No hazardous reactions occur under normal use and handling conditions; no violent reaction with common solvents and raw materials.

10.3 **Conditions to Avoid:** High temperature (>80°C), high humidity (>70%), direct sunlight, contact with strong oxidizing agents/heavy metal ions.

10.4 **Incompatible Materials:** Strong oxidizing agents, concentrated mineral acids, ferric/copper/silver salts and other heavy metal compounds.

10.5 **Hazardous Decomposition Products:** No toxic decomposition products; decomposes into CO<sub>2</sub>, H<sub>2</sub>O, calcium oxide and a small amount of organic matter at >200°C; no toxic gas release.

### SECTION 11: Toxicological Information

#### 11.1 Toxicological Effects

- **Acute Toxicity:** Oral (rat) LD<sub>50</sub> >10,000 mg/kg (non-toxic); Dermal (rabbit) LD<sub>50</sub> >20,000 mg/kg (non-toxic); Inhalation (rat) LC<sub>50</sub> >50 mg/m<sup>3</sup> (4h, non-toxic).
- **Skin/Eye Irritation:** No skin/eye irritation (rabbit 24h closed patch test); food grade product is non-irritating to human skin/mucous membranes.
- **Sensitization:** No skin/respiratory tract sensitization effects (human/animal tests).
- **Mutagenicity/Carcinogenicity:** No mutagenic effects (Ames test, chromosome aberration test); not classified as a carcinogen by IARC/EPA/NTP.
- **Reproductive Toxicity:** No reproductive toxicity; animal tests show no adverse effects on fertility and fetal development.
- **Target Organ Toxicity:** No target organ toxicity for single/repeated exposure; no adverse effects on liver, kidney, heart and other organs.

### SECTION 12: Ecological Information

12.1 **Ecotoxicity:** Non-toxic to aquatic organisms; Zebrafish LC<sub>50</sub> (96h) >10,000 mg/L; Daphnia EC<sub>50</sub> (48h) >5,000 mg/L; Green Algae EC<sub>50</sub> (72h) >10,000 mg/L.

12.2 **Persistence &**

**Degradability:** Fully biodegradable (BOD<sub>5</sub> /COD >0.8); decomposed into CO<sub>2</sub>, H<sub>2</sub>O and calcium ions by microorganisms in water/soil, no persistent pollutants.

12.3 **Bioaccumulative**

**Potential:** No bioaccumulation potential; calcium ions and ascorbic acid are essential nutrients for organisms, easy to metabolize and excrete.

12.4 **Soil Mobility:** Moderate mobility; calcium

ions can be adsorbed by soil particles, ascorbic acid is easily degraded by soil microorganisms, no groundwater pollution risk.

12.5 **PBT/vPvB Assessment:** Not classified as PBT/vPvB; meets global environmental protection standards.

12.6 **Other Ecological Effects:** No adverse ecological effects; appropriate concentration can promote the growth of some soil microorganisms; no water eutrophication risk.



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## SECTION 13: Disposal Considerations

### 13.1 Waste Disposal Methods

- **Product Waste:** Unused/expired product can be reused or disposed of as ordinary non-hazardous waste; no special treatment required.
- **Packaging Waste:** Rinse empty packaging with water, dry and recycle as ordinary plastic/metal waste; food grade packaging is disposed of in accordance with food packaging waste regulations.
- **Cleaning Waste:** Cleaning water and waste residue can be discharged into the sewage treatment system directly, no special treatment required.

13.2 **Disposal Notes:** Do not mix with hazardous waste; dispose of in accordance with local national environmental protection regulations for non-hazardous waste.

## SECTION 14: Transport Information

14.1 **UN Classification:** Non-hazardous goods; no UN number, no hazard class. 14.2 **Transport Details:** Transport by ordinary dry means of transport (truck, train); no refrigeration required for transport. 14.3 **Transport Precautions:** Avoid collision, moisture, direct sunlight and high temperature during transport; prevent packaging damage and powder leakage; do not transport with strong oxidizing agents, acids and toxic/harmful substances. 14.4 **IATA/IMDG:** Permitted for air/sea transport; no restrictions, classified as ordinary cargo.

## SECTION 15: Regulatory Information

15.1 **National Regulations (China):** Complies with GB 14754-2010 (Food Additive Calcium Ascorbate), Chinese Pharmacopoeia, Feed Additive Hygiene Standards; non-hazardous chemical, no special production/use license required. 15.2 **International Regulations:** Complies with FCC, USP, EP, FAO/WHO food additive standards; REACH (EU) registered, TSCA (US) listed; meets GHS non-hazardous classification requirements.

## SECTION 16: Other Information

- This MSDS is compiled based on current scientific research and practical application data, complying with international and national relevant standards.
- The supplier is not liable for any damage caused by improper use, storage, transport or disposal of the product.
- This document is for professional reference only and shall not be used as other commercial purposes; it will be updated in a timely manner with the latest technical and regulatory information.
- **Revision History:** First revision, issued on 20 FEB 2026.