



Material Safety Data Sheet (MSDS)

Product Name: Calcium Citrate USP Grade

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

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1. Identification of the Substance/Preparation and Company

Product Name: Calcium Citrate

Chemical Formula: $\text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 4\text{H}_2\text{O}$

Synonyms: Tricalcium dicitrate tetrahydrate, Citric acid calcium salt

Recommended Use: Pharmaceutical raw material, dietary supplement, food additive, and nutraceutical ingredient.

Uses Advised Against: Non-recommended for explosive, fuel, or industrial corrosive applications.

2. Hazards Identification

GHS Classification: Not classified as hazardous.

Hazard Statements: Not applicable.

Signal Word: None.

Pictogram: None required.

Potential Health Effects:

- **Inhalation:** Dust may cause mild respiratory irritation.
- **Skin Contact:** Non-irritating.
- **Eye Contact:** Dust may cause slight irritation.
- **Ingestion:** Non-toxic in moderate amounts; large doses may cause mild gastrointestinal discomfort.

3. Composition / Information on Ingredients

This product consists primarily of **Calcium Citrate (CAS No. 5785-44-4)** with a **purity greater than 99% (USP Grade)**.

It is a **single chemical substance** and does not contain any hazardous impurities or additives.

4. First Aid Measures

- **Inhalation:** Move to fresh air; seek medical attention if irritation persists.
- **Skin Contact:** Wash with soap and water.
- **Eye Contact:** Rinse thoroughly with water for several minutes.
- **Ingestion:** Rinse mouth with water; seek medical attention if large quantities are ingested.

5. Fire-Fighting Measures

- **Suitable Extinguishing Media:** Water spray, dry chemical, carbon dioxide, or foam.
- **Specific Hazards:** Product is non-combustible; decomposition may produce carbon oxides.
- **Protective Equipment:** Firefighters should wear protective clothing and self-contained breathing apparatus.

6. Accidental Release Measures

- **Personal Precautions:** Avoid inhaling dust; wear mask and gloves.
- **Environmental Precautions:** Prevent dispersion into air or drains.
- **Methods for Cleaning Up:** Sweep up carefully; avoid generating dust; dispose of according to local regulations.

7. Handling and Storage

- **Handling:** Avoid dust formation; ensure good ventilation.
- **Storage:** Store in a cool, dry, well-ventilated area. Keep container tightly closed and away from moisture.
- **Incompatible Materials:** Strong acids and oxidizing agents.

8. Exposure Controls / Personal Protection

- **Occupational Exposure Limits:** Not established.
- **Respiratory Protection:** Dust mask recommended.
- **Eye Protection:** Safety goggles.
- **Skin Protection:** Gloves and lab coat.
- **Hygiene Measures:** Wash hands after handling; avoid inhalation of dust.

9. Physical and Chemical Properties

- **Appearance:** White, odorless, crystalline powder
- **Odor:** Odorless
- **Molecular Weight:** 570.5 g/mol
- **Solubility:** Slightly soluble in water
- **pH (1% solution):** Approx. 6 – 8
- **Melting Point:** Decomposes without melting
- **Density:** 2.4 g/cm³ (approx.)
- **Boiling Point:** Not applicable

10. Stability and Reactivity

- **Stability:** Stable under normal conditions.
- **Conditions to Avoid:** Excessive heat, moisture.

- **Incompatible Materials:** Strong acids, strong oxidizers.
 - **Decomposition Products:** Calcium oxide and carbon oxides.
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11. Toxicological Information

- **Acute Toxicity:** Non-toxic.
 - **Skin Corrosion/Irritation:** Non-irritating.
 - **Serious Eye Damage/Irritation:** Slight irritation possible.
 - **Carcinogenicity:** Not classified as carcinogenic.
 - **Mutagenicity:** Not mutagenic.
 - **LD50 (Oral, Rat):** >5000 mg/kg.
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12. Ecological Information

- **Ecotoxicity:** No known adverse effects.
 - **Persistence and Degradability:** Biodegradable.
 - **Bioaccumulative Potential:** Not expected to bioaccumulate.
 - **Mobility in Soil:** Low mobility.
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13. Disposal Considerations

- **Waste Disposal Method:** Dispose of in accordance with local, regional, and national regulations.
 - **Contaminated Packaging:** Wash and recycle or dispose of safely.
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14. Transport Information (Detailed)

UN Number: Not applicable

UN Proper Shipping Name: Not regulated as a hazardous material

Transport Hazard Class: Non-hazardous

Packing Group: Not applicable

Environmental Hazards: None known

Special Precautions for User: Avoid generating dust during loading/unloading.

Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code): Not applicable

Regulatory Transport Classification:

- **ADR/RID (Road/Rail):** Not regulated
- **IMDG (Sea):** Not regulated
- **IATA (Air):** Not regulated
- **DOT (USA):** Not regulated

Additional Information:

Calcium Citrate is a non-flammable, non-toxic, and non-reactive solid. It is safe for transportation under normal handling and shipping conditions. Proper labeling and sealed packaging are recommended to prevent moisture exposure and maintain product quality during transport.

15. Regulatory Information

- **Regulation (EC) No. 1907/2006 (REACH):** Not classified as hazardous.
- **US FDA:** Approved as food additive and dietary ingredient.
- **TSCA (Toxic Substances Control Act):** Listed.
- **Other Regulations:** Complies with USP standards.

16. Other Information

Disclaimer: The information provided in this MSDS is believed to be accurate and represents the best data currently available. However, no warranty of merchantability or fitness for any particular purpose is expressed or implied. The user assumes all responsibility for safe use and disposal of the product.

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