



WEST BENGAL CHEMICAL INDUSTRIES LIMITED  
145/1, Jessore Road, Lake Town,  
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Phone: +9133 4025 1700 Fax: +9133 2574 7410  
Email: [wbcil@wbcil.com](mailto:wbcil@wbcil.com) Website: [www.wbcil.com](http://www.wbcil.com)

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** Calcium Citrate Malate.

**Product Code :** CCM2022

**Company Identification:**

WEST BENGAL CHEMICAL INDUSTRIES LIMITED.

145/1, Jessore Road, Lake Town,

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## Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt	Molecular Formula	Molecular Weight
Calcium Citrate Malate	142606-53-9	100	C <sub>24</sub> H <sub>34</sub> Ca <sub>6</sub> O <sub>35</sub>	1123 g/mol

## Section 3 - Hazards Identification

<b>APPEARANCE</b>	:	White powder.
<b>CAUTION</b>	:	None
<b>TARGET ORGANS</b>	:	None
<b>CLASSIFICATION OF THE SUBSTANCE OR MIXTURE</b>	:	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. Not a hazardous substance or mixture according to EC-directives 67/548/EEC.
<b>LABEL ELEMENTS</b>	:	The product does not need to be labeled in accordance with EC directives or respective national laws.

## Section 4 - First Aid Measures

<b>GENERAL ADVICE</b>	:	Consult a physician. Show this safety data sheet to the doctor in attendance
<b>IF INHALED</b>	:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>SKIN CONTACT</b>	:	Wash off with soap and plenty of water. Consult a physician.
<b>EYE CONTACT</b>	:	Flush eyes with water as precaution.



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### Section 5 - Fire-Fighting Measures

<b>SUITABLE EXTINGUISHING MEDIA</b>	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS</b>	:	Wear self contained breathing apparatus for firefighting if necessary.
<b>IF SWALLOWED</b>	:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 6 - Accidental Release Measures

<b>PERSONAL PRECAUTIONS</b>	:	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
<b>ENVIRONMENTAL PRECAUTIONS</b>	:	Do not let product enter drains.
<b>METHODS AND MATERIALS FOR CONTAINMENT &amp; CLEANING UP</b>	:	Pick up and arrange disposal without creating dust. Sweep up and keep in suitable, closed containers for disposal.

### Section 7 - Handling and Storage

<b>PRECAUTIONS FOR SAFE HANDLING</b>	:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
<b>CONDITIONS FOR SAFE STORAGE</b>	:	Store in cool place. Keep container tightly closed in a dry and well – ventilated place. Light sensitive. Hygroscopic.



### Section 8 - Exposure Controls / Personal Protection

<b>HYGIENE MEASURES</b>	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>RESPIRATORY PROTECTION</b>	:	Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
<b>HAND PROTECTION</b>	:	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
<b>EYE PROTECTION</b>	:	Safety glasses with side-shields conforming to EN166.
<b>SKIN AND BODY PROTECTION</b>	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### Section 9 - Physical and Chemical Properties

<b>Appearance form</b>	:	White free flowing powder with occasional friable lumps.
<b>Color</b>	:	White
<b>Odour</b>	:	Characteristic
<b>Solubility</b>	:	Insoluble in water.
<b>Molecular weight</b>	:	670 gm/mol
<b>Other safety information</b>	:	No data available

### Section 10 - Stability and Reactivity

<b>Chemical stability</b>	:	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	:	Exposure to moisture may affect product quality.
<b>Materials to avoid</b>	:	Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	:	Hazardous decomposition products formed under fire conditions. - Carbon dioxides, Calcium monoxides.



## Section 11 - Toxicological Information

<b>Acute Toxicity</b>	: <b>Oral Toxicity:</b> Low acute toxicity.  <b>LD<sub>50</sub> (Oral, Rat):</b> >5000 mg/kg, indicating low risk in humans at typical exposure levels.
<b>Skin Corrosion/Irritation</b>	: Calcium citrate malate is not classified as a skin irritant. Studies show that it is non-irritating to the skin based on animal data.
<b>Respiratory or Skin Sensitization</b>	: No evidence of respiratory sensitization or skin sensitization. Calcium citrate malate is not considered a sensitizing agent.
<b>Serious Eye Damage/Irritation</b>	: Calcium citrate malate is not classified as an eye irritant. Contact with the eyes may cause transient discomfort but does not lead to long-term or serious damage.
<b>Inhalation Toxicity</b>	: Not applicable; calcium citrate malate is a solid, non-volatile compound.
<b>Chronic Toxicity</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Calcium citrate malate is not classified as a carcinogen by IARC, NTP, OSHA, or ACGIH. Long-term studies have shown no evidence of tumor formation or carcinogenic effects.
<b>Dermal Toxicity</b>	: Not expected to cause toxicity via dermal exposure due to low absorption through the skin.
<b>Germ Cell Mutagenicity</b>	: Non-mutagenic. Calcium citrate malate has tested negative in genotoxicity studies, including the Ames test and in vitro chromosomal aberration tests.
<b>Reproductive Toxicity</b>	: No adverse effects on reproduction or fetal development have been reported. Studies in animal models have shown no reproductive toxicity, even at high doses. Calcium is essential for reproductive health, which likely mitigates



<b>STOT (Specific Target Organ Toxicity)</b>	:	adverse effects.  Single Exposure. Not classified for specific organ toxicity in single exposure scenarios. Calcium citrate malate shows no systemic toxicity following acute exposure in studies.
<b>STOT</b>	:	Repeated Exposure. No specific target organ toxicity has been observed from repeated exposure. Long-term exposure studies in animals have shown no significant adverse effects at doses up to 2000 mg/kg/day.
<b>Aspiration Hazard</b>	:	Not applicable. Calcium citrate malate is a solid compound and poses no aspiration risk.
<b>Additional Toxicological Information</b>	:	<b>Human Health Effects:</b> Excessive intake may result in hypercalcemia, with symptoms including nausea, constipation, confusion, and, in severe cases, cardiac arrhythmias.  <b>Environmental and Ecotoxicological Data:</b> Calcium citrate malate poses minimal risk to aquatic environments due to its biodegradability and low aquatic toxicity.
<b>Inhalation</b>	:	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	:	May be harmful if swallowed.
<b>Skin</b>	:	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	:	Causes eye irritation.
<b>Signs and Symptoms of Exposure</b>	:	Burning sensation, Cough, Wheezing, Laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Spasm, Inflammation and Edema of the larynx, Inflammation and edema of the bronchi, Pneumonitis, Pulmonary edema.

## Section 12 - Ecological Information

<b>TOXICITY</b>	:	<b>Aquatic Toxicity:</b>
<b>Fish Toxicity (Acute)</b>	:	Calcium citrate malate shows low toxicity to aquatic organisms. Based on similar calcium salts and citric acid derivatives, the LC <sub>50</sub> (96 hours) for fish is estimated to be >100 mg/L, indicating low acute toxicity.
<b>Invertebrates (e.g., Daphnia magna)</b>	:	Low toxicity to aquatic invertebrates, with EC <sub>50</sub> (48 hours) estimated to be >100 mg/L, suggesting minimal risk to species like



<p><b>Algae</b></p> <p><b>Soil Organisms</b></p>	<p>daphnia.</p> <p>: While limited data is available, calcium and citrate ions are generally considered to have low toxicity to algae due to their essential role in biological processes.</p> <p>: Calcium citrate malate is not expected to be toxic to soil microorganisms or earthworms, as calcium is a natural soil nutrient and citrate ions biodegrade quickly.</p>
<p><b>PERSISTANCE &amp; DEGRADABILITY</b></p>	<p>: <b>Biodegradability:</b> Calcium citrate malate is readily biodegradable. Citrate and malate ions are natural organic acids that break down quickly through microbial action in the soil and water, converting into carbon dioxide and water.</p> <p><b>Inorganic Component:</b> Calcium ions are non-biodegradable but integrate into natural mineral cycles, essential for soil and ecosystem health.</p>
<p><b>BIOACCUMULATIVE POTENTIAL</b></p>	<p>: <b>Bioaccumulation:</b> Calcium citrate malate has a low potential for bioaccumulation. Calcium ions do not bioaccumulate in organisms, as biological systems regulate calcium levels. Citrate and malate ions are metabolized quickly and do not bioaccumulate.</p>
<p><b>OTHER ADVERSE EFFECTS</b></p> <p><b>MOBILITY IN SOIL</b></p>	<p>: </p> <ul style="list-style-type: none"> <li>• Ozone Depletion Potential (ODP): Calcium citrate malate does not contain ozone-depleting chemicals and has no ozone depletion potential.</li> <li>• Global Warming Potential (GWP): Calcium citrate malate does not contribute to greenhouse gas emissions and has no significant global warming potential.</li> <li>• Environmental Fate: When released, calcium citrate malate dissociates into calcium, citrate, and malate ions, all of which are part of natural biochemical cycles, suggesting no long-term ecological impact or accumulation.</li> </ul> <p>: <b>Mobility:</b> Calcium citrate malate is moderately soluble in water, which allows for some mobility in soil. Calcium ions tend to be retained in soils, especially in those with higher clay or organic content.</p> <p><b>Leaching:</b> Calcium ions may leach in sandy soils but are typically</p>



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		immobilized in clay and organic-rich soils. Citrate and malate ions are quickly biodegraded and are unlikely to leach extensively.
<b>Biodegradability:</b>	:	Calcium Citrate Malate is expected to degrade in the environment due to its organic acid components.

### Section 13 - Disposal Considerations

#### PRODUCT

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber.

#### CONTAMINATED PACKAGING

Dispose of as unused product.

### Section 14 - Transport Information

<b>DOT Classification</b>	:	Not a DOT controlled material
<b>Identification</b>	:	Not applicable.
<b>Special Provision for Transport</b>	:	Not applicable
<b>UN proper shipping name:</b>	:	Not available.
<b>ADR/RID</b>	:	Not dangerous goods
<b>IMDG:</b>	:	Not dangerous goods
<b>IATA:</b>	:	Not dangerous goods

### Section 15 - Regulatory Information

#### EU-Regulations:

No REACH Annex XVII restrictions  
Calcium Citrate Malate is not on the REACH Candidate List  
Calcium Citrate Malate is not on the REACH Annex XIV List  
Directive 2012/18/EU (SEVESO III)

#### National regulations:

Not listed on the United States TSCA (Toxic Substances Control Act) inventory.



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## Section 16 - Other Information

**Eye Irrit.**

Eye irritation.

**H 315**

Causes skin irritation.

**H 319**

Causes serious eye irritation.

**H 335**

May cause respiratory irritation.

**Skin Irrit.**

Skin irritation

**STOT SE**

Specific target organ toxicity - single exposure.

**Xi**

Irritant.

**R36/37/38**

Irritating to eyes, respiratory system and skin.

**Disclaimer:**

This material safety data sheet is provided as an information resource only. WEST BENGAL CHEMICAL INDUSTRIES LIMITED believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

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