



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

145/1, Jessore Road, Lake Town,

Kolkata – 700 089, India.

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 Aspartate

**Product Code:** CSPNL12

**Company Identification:**

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## Section 2 - Composition / Information on Ingredients

<b>Synonyms</b>	: Aspartic Acid Calcium Salt
<b>Molecular Formula</b>	: $C_4H_5CaNO_4$
<b>Molecular Weight</b>	: 171.16 g/mol
<b>CAS-No.</b>	: 10389-09-0
<b>EC-No.</b>	: XXXXX

## Section 3 - Hazards Identification

**H315 (100%):** Causes skin irritation

**H319 (100%):** Causes serious eye irritation

**H335 (100%):** May cause respiratory irritation,  
Respiratory tract irritation

Skin Irrit. 2 (100%)

Eye Irrit. 2 (100%)

STOT SE 3 (100%)

P261, P264, P264+P265, P271, P280, P302+P352,

P304+P340, P305+P351+P338, P319, P321,

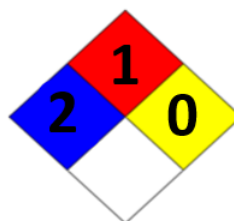
P332+P317, P337+P317, P362+P364, P403+P233,

P405, and P501

**Signal word:** Warning

**Hazard statements:** **H315:** Causes skin irritation.

**H319:** Causes serious eye irritation. **H335:** May cause  
respiratory irritation.



NFPA SCALE (0-4)





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### Section 3 - Hazards Identification

**Precautionary statements: P260:** Do not breathe dust/fume/gas/mist/vapours. **P280:** Wear: protective gloves/ clothing & eye protection.

**P302+352: IF ON SKIN:** Wash with soap and water.

**P305+351+338: IF IN EYES:** Rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Health	2
Flammability	1
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)

### Section 4 - First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

**Serious Skin Contact:** Not available. **Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

### Section 5 - Fire-Fighting Measures

**Flammability of the Product:** May be combustible at high temperature.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:**

Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

**Fire Fighting Media and Instructions:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.



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## Section 5 - Fire-Fighting Measures

**Special Remarks on Fire Hazards:** As with most organic solids, fire is possible at elevated temperatures **Special Remarks on Explosion Hazards:** Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

## Section 6 - Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## Section 7 - Handling and Storage

**Precautions:** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8 - Exposure Controls / Personal Protection

### Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.



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## Section 9 - Physical and Chemical Properties

a)	Appearance	:	White crystalline powder, hygroscopic.
b)	Odour	:	No data available
c)	Solubility	:	Soluble in water, solution is clear, practically insoluble in ethanol, ether and chloroform.
d)	pH	:	5 to 6
e)	Melting point/freezing point	:	270-271\°C
f)	Products of Combustion	:	Calcium oxide, Fumes and Oxides of carbon.
g)	Boiling point or initial boiling point and boiling range	:	264.1\°C at 760 mmHg
h)	Density and/or relative density	:	1.514g/cm <sup>3</sup>

## Section 10 - Stability and Reactivity

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, dust generation

**Incompatibility with various substances:** Not available.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.



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## Section 11 - Toxicological Information

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:**

**Mouse:**

**LD50: oral:**10 gm/kg

**LD50: intraperitoneal:** 1059 mg/kg

**LD50: intravenous:** 646 mg/kg

**LC50:** Not available.

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Can cause eye irritation.

Inhalation: This material may produce dust. It can cause respiratory tract irritation with soreness, dry or scratchy feeling and cough. Breathing small amounts of this material during usual industrial handling is not likely to be harmful. Breathing large amounts may be harmful. Ingestion: Swallowing this material is not likely to be harmful. May cause sore throat, and mouth The toxicological properties of this substance have not been fully investigated.

**Acute Toxicity:**

**Oral LD<sub>50</sub> (Rat):** Estimated to be **2,000 - 5,000 mg/kg.**

**Oral LD<sub>50</sub> (Mouse):** Estimated to be **~2,000 mg/kg.**

## Section 12 - Ecological Information

**Ecotoxicity:**

**Fish Toxicity (LC<sub>50</sub>):** > 100 mg/L (estimated, based on calcium and aspartate salts).

**Daphnia Toxicity (EC<sub>50</sub>):** > 100 mg/L (estimated, based on calcium salts).

**Algal Toxicity:** Not expected to cause harmful effects on algae at environmentally relevant concentrations.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** Not available.

**Special Remarks on the Products of Biodegradation:** Not available.



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## Persistence and Degradability

### Biodegradability:

Calcium aspartate is expected to biodegrade relatively quickly in the environment. The organic component (aspartate) is an amino acid and is biodegradable under aerobic conditions. Calcium ions are naturally abundant and do not persist in the environment.

**Aspartate:** Biodegradable, as it is an amino acid that naturally breaks down in biological processes.

**Calcium ions:** Calcium is a naturally occurring element and will cycle through natural processes (e.g., soil and water) without significant persistence.

### Environmental Fate:

Calcium aspartate dissociates into calcium ions and aspartate in the environment. Calcium ions are common in natural waters and soils and are not expected to cause long-term environmental harm.

## Bioaccumulative Potential

### Bioaccumulation:

Calcium aspartate does not exhibit a significant bioaccumulative potential. The dissociated calcium ions and the aspartate (amino acid) are commonly found in natural biological systems and are not expected to accumulate in organisms over time.

**Calcium:** Essential element in many biological processes, not prone to bioaccumulation.

**Aspartate:** A naturally occurring amino acid, unlikely to bioaccumulate.

## Mobility in Soil

### Soil Mobility:

Calcium aspartate is highly soluble in water and may be mobile in soil. However, once dissociated into calcium ions and aspartate, the mobility is similar to that of other calcium salts. Calcium ions may interact with soil particles, affecting soil structure and mineral composition, but no significant adverse effects are anticipated.

### Leaching Potential:

Calcium aspartate is expected to leach in the form of calcium ions, which are a common component of soil and water systems. The leaching potential is similar to other calcium salts.



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#### Results of PBT and vPvB Assessment

**Persistent, Bioaccumulative, and Toxic (PBT) / Very Persistent and Very Bioaccumulative (vPvB):** Calcium aspartate does **not** meet the criteria for classification as **PBT** or **vPvB** based on its chemical structure, biodegradability, and lack of bioaccumulation potential.

#### Other Adverse Effects

#### Environmental Impact:

Calcium aspartate is not expected to have significant adverse effects on ecosystems. In large quantities, it could slightly alter water chemistry, particularly calcium concentrations, which could influence organisms sensitive to changes in water hardness. However, no long-term environmental harm is expected under typical use conditions.

### Section 13 - Disposal Considerations

**Waste Disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Section 14 - Transport Information

- D O T Classification** : Not a DOT controlled material.  
**Air transport Goods** : Nonhazardous/non dangerous as per IATA DGR.  
**Special Provision for Transport** : Not applicable.  
**IATA Specification** : Non-dangerous, non-hazardous.

#### DOT (Pictograms)

AS PER IATA REGULATION SAFE FOR CARRAGE, NON-HAZARDOUS AND NON-RESTRICTED.  
NO SPECIAL LABELLING OR TRANSPORT MEASURE HAVE BEEN IDENTIFIED.  
THIS IS NOT REGULATED AS PER IATA REGULATION



### Section 15 - Regulatory Information

**Federal and State Regulations:** No products were found.  
**Other Regulations:** Not available.  
**Other Classifications:**  
**WHMIS (Canada):** Not controlled under WHMIS (Canada).  
**DSCL (EEC):**



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## Section 15 - Regulatory Information

R36- Irritating to eyes. S2- Keep out of the reach of children. S46- If swallowed, seek medical advice immediately and show this container or label.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

## Section 16 - Other Information

**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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**Revision No.:** 03