



WEST BENGAL CHEMICAL INDUSTRIES LIMITED
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Phone: +9133 4025 1700 Fax: +9133 2574 7410
Email: wbcil@wbcil.com Website: www.wbcil.com

Section 1 - Chemical Product and Company Identification

1.1 MSDS Name: Calcium Aspartate

1.2 Product Code: CSPNL12

1.3 Relevant uses and uses advised against (if any):

Laboratory chemicals, Industrial Manufacturing.

1.4 Company Identification:

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Section 2 – Hazards Identification

2.1 GHS, Globally Harmonized System Classification in accordance with 29 CFR 1910

Classification according to Regulation (EC) No 1272/2008:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

2.1.1 Labeling according to GHS & Regulation (EC) No 1272/2008

- Skin Irritation: Category 2
- Eye Irritation: Category 2
- Specific Target Organ Toxicity (Single Exposure): Category 3

2.2 Signal word:

Warning



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2.3 Hazard statements:

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

2.4 Precautionary statements:

Prevention:

- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264: Wash hands thoroughly after handling.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves, eye protection, and face protection.

Response:

- P302+P352: IF ON SKIN – Wash with plenty of soap and water.
- P305+P351+P338: IF IN EYES – Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P304+P340: IF INHALED – Remove victim to fresh air and keep at rest in a comfortable position for breathing.
- P337+P313: If eye irritation persists, get medical advice/attention.

Storage:

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P405: Store locked up.

Disposal:



- P501: Dispose of contents/container in accordance with local regulations.

2.5 Pictogram:



2.6 NFPA SCALE:



NFPA SCALE (0-4)

2.7 HMIS RATINGS:

Health	2
Flammability	1
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)

Section 3 – Composition/ Information on Ingredients

3.1 Product Name: Calcium Aspartate

3.2 Synonyms: Aspartic Acid Calcium Salt , l-Aspartic acid (calcium), calcium l-aspartate

3.2 Molecular Formula: $C_4H_5CaNO_4$

3.3 Molecular Weight: 171.16 g/mol

3.4 CAS-No.: 10389-09-0



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Section 3 – Composition/ Information on Ingredients

3.5 EC-No.: 600-502-5

3.6 Percentage: 100%

Section 4 - First Aid Measures

4.1 Description of first aid measures:

4.1.1 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.

4.1.2 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.

4.1.3 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.

4.1.4 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

5.1 Flammability of the Product:

May be combustible at high temperature.

5.2 Auto-Ignition Temperature:

Not available.

5.3 Flash Points:

Not available.

5.4 Flammable Limits:

Not available.

5.5 Products of Combustion:

Calcium oxide, Fumes and Oxides of carbon.

5.6 Fire Hazards in Presence of Various Substances:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

5.7 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.

5.8 Fire Fighting Media and Instructions:



Section 5 - Fire-Fighting Measures

5.8.1 SMALL FIRE: Use Dry chemical powder.

5.8.2 LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

5.9 Special Remarks on Fire Hazards:

As with most organic solids, fire is possible at elevated temperatures.

5.10 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. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. At high temperatures under fire conditions, it may produce toxic or irritating fumes.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment, and emergency procedures:

Avoid breathing dust/fumes/gas/mist/vapors/spray. Use individual protective equipment (waterproof boots, suitable protective clothing, safety glasses, etc.). Restrict unprotected personnel from the area. Prevent any contact with hot surfaces. Do not approach facing the wind. Do not touch the spilled material. Environmental precautions: Do not let the product enter drains, soil, or water sources.

6.2 Methods and materials used for containment Cleanup procedures and Storage:



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6.2.1 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.

6.2.2 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

7.1 Precautions for Safe Handling:

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.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, and ventilated area away from heat sources and protected from sunlight in tightly closed original container. Keep air contact to a minimum. Store protected from heat, sparks and ignition sources and incompatible materials. Avoid contact with skin and eyes. Avoid inhalation of dust/mist/vapor. Do not store with incompatible materials like strong oxidizing agents and acids.



Section 8 - Exposure Controls / Personal Protection

8.1 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.

8.2 Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

8.3 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

8.3.1 Skin Protection:

Wear protective gloves and clean body-covering clothing.

8.3.2 Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

8.4 Other Control Measures:



Maintain good housekeeping in work area. Dust deposits on floors and other surfaces may pick up moisture and cause the surfaces to become slippery and present safety hazards. Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling.

Section 9 - Physical and Chemical Properties

Physical state and appearance	Solid white to off-white crystals or powder, hygroscopic
Odour	Odorless.
Odour threshold	Not available.
pH (5% soln/water)	5 to 6.
Relative density	Not available.
Melting point/freezing point	270–271°C
Initial boiling point and boiling range	264.1°C at 760 mmHg
Flash point	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Upper/lower flammability or explosive limits	Not available.



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Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Partition coefficient: n-octanol/water	Not available.
Solubility	Soluble in water.
Viscosity	Not available.
Density and/or relative density	1.514g/cm ³

Section 10 - Stability and Reactivity

10.1 Stability:

The product is stable.

10.2 Instability Temperature:

Not available.

10.3 Conditions of Instability:

Excess heat, dust generation

10.4 Incompatibility with various substances:



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Not available.

10.5 Corrosivity:

Not available.

10.6 Special Remarks on Reactivity:

Not available.

10.7 Special Remarks on Corrosivity:

Not available.

10.8 Polymerization:

Will not occur.

Section 11 - Toxicological Information

11.1 Routes of Entry:

Inhalation. Ingestion.

11.2 Toxicity to Animals:

Mouse:

LD50: oral:10 gm/kg

LD50: intraperitoneal: 1059 mg/kg

LD50: intravenous: 646 mg/kg

LC50: Not available.

11.3 Chronic Effects on Humans:



Section 11 - Toxicological Information

Not available.

11.4 Other Toxic Effects on Humans:

Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.

11.5 Special Remarks on Toxicity to Animals:

Not available.

11.6 Special Remarks on Chronic Effects on Humans:

Not available.

11.7 Special Remarks on other Toxic Effects on Humans:

Not available

11.8 Acute Potential Health Effects:

11.8.1 Skin

May cause skin irritation.

11.8.2 Eyes

Can cause eye irritation.

11.8.3 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



Section 11 - Toxicological Information

to be harmful. May cause sore throat, and mouth the toxicological properties of this substance have not been fully investigated.

11.9 Acute Toxicity:

Oral LD₅₀ (Rat): Estimated to be 2,000 - 5,000 mg/kg.

Oral LD₅₀ (Mouse): Estimated to be ~2,000 mg/kg.

Section 12 - Ecological Information

12.1 Ecotoxicity:

Fish Toxicity (LC₅₀): > 100 mg/L (estimated, based on calcium and aspartate salts).

Daphnia Toxicity (EC₅₀): > 100 mg/L (estimated, based on calcium salts).

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

12.2 BOD5 and COD:

Not available.

12.3 Products of Biodegradation:

Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise.

12.4 Toxicity of the Products of Biodegradation:

Not available.



12.5 Special Remarks on the Products of Biodegradation:

Not available.

12.6 Persistence and Degradability

11.6.1 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.

12.6.2 Aspartate:

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

12.6.3 Calcium ions:

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

12.7 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.

12.8 Bioaccumulative Potential

12.8.1 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.

12.8.2 Calcium:

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

12.8.3 Aspartate:

A naturally occurring amino acid, unlikely to bioaccumulate.

12.9 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.

12.10 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.

12.11 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.

12.12 Other Adverse Effects:



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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

- 14.1 D O T Classification** : Not a DOT controlled material.
14.2 Air transport Goods : Nonhazardous/non dangerous as per IATA DGR.
14.3 Special Provision for Transport : Not applicable.
14.4 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





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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): 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



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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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