



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 Website: www.wbcil.com

Section 1 - Chemical Product and Company Identification

1.1 MSDS Name: Calcium Asparto Glycinate

1.2 Product Code: CAG3537

1.3 Relevant identified uses of the substance or mixture and uses advised against:

Nutritional supplement, pharmaceutical ingredient, research chemical

1.4 Company Identification:

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Section 2 – Hazards identification

2.1 GHS Classification

2.1.1 Hazard classification:

Acute Toxicity (Oral) – Category 5

Skin Irritation – Category 3

Eye Irritation – Category 2B

Specific Target Organ Toxicity (Single Exposure) – Category 3 (Respiratory Irritation)

2.2 Signal Word:

Warning

2.3 Hazard Statements:

- H303: May be harmful if swallowed
- H316: Causes mild skin irritation
- H320: Causes eye irritation



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Section 2 – Hazards identification

- H335: May cause respiratory irritation

2.4 Precautionary Statements:

- P261: Avoid breathing dust/fumes
- P264: Wash hands thoroughly after handling
- P280: Wear protective gloves/eye protection
- P305+P351+P338: IF IN EYES – Rinse cautiously with water for several minutes. Remove contact lenses if present.

Section 3 – Composition/ Information on Ingredients

3.1 Ingredient Name: Calcium Asparto Glycinate

3.2 Molecular formula: $C_9H_{14}N_2O_8Ca_2$

3.3 Molecular weight: 376.3 g/mol

3.4 % wt: 100

Section 4 - First Aid Measures

4.1 Description of first aid measures:

4.1.1 General Advice:

Ensure personal safety before assisting the affected person. Seek medical attention if symptoms persist or worsen.

4.1.2 Inhalation:

Remove the affected person to fresh air and keep them at rest in a comfortable position. If breathing is difficult, administer oxygen. If breathing stops, perform CPR and seek immediate medical attention. Seek medical help if symptoms persist (e.g., persistent cough, dizziness).



Section 4 - First Aid Measures

4.1.3 Ingestion:

Rinse mouth with water. Do not induce vomiting unless instructed by a medical professional. If the affected person is unconscious, do not give anything by mouth. If large amounts are ingested, seek immediate medical attention. Symptoms may include nausea, stomach irritation, vomiting, or diarrhea.

4.1.4 Skin Contact:

Remove contaminated clothing and wash affected skin with soap and plenty of water for at least 15 minutes. If irritation or rash develops, seek medical advice. Wash contaminated clothing before reuse.

4.1.5 Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do, then continue rinsing. If irritation persists or vision disturbances occur, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

4.2.1 Acute Symptoms:

Inhalation: May cause respiratory tract irritation, coughing, shortness of breath, throat discomfort.

Ingestion: May cause gastrointestinal discomfort, nausea, vomiting, diarrhea, and abdominal pain.

Skin Contact: May cause redness, irritation, dryness, or mild rash upon prolonged exposure.

Eye Contact: May cause redness, watering, burning sensation, or blurred vision.



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Section 4 - First Aid Measures

4.2.2 Delayed/Chronic Symptoms:

Long-term inhalation exposure may cause respiratory discomfort or increased sensitivity. Prolonged skin exposure may lead to dry or cracked skin. Repeated ingestion of large amounts may affect calcium metabolism and electrolyte balance.

4.3 Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

Section 5 - Fire-Fighting Measures

5.1 Suitable Extinguishing Media:

Use foam, dry chemical, or CO₂ extinguisher.

5.2 Flammability of the Product:

Calcium Asparto Glycinate is not classified as a flammable substance under normal conditions.

5.3 Auto-Ignition Temperature:

Not available

5.4 Flash Point:

Not available

5.5 Fire and Explosion Hazards:

This material is not classified as explosive.

5.6 Hazardous combustion products:

Carbon oxides, nitrogen oxides, calcium oxides.



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5.7 Fire Fighting Media and Instructions:

In case of a fire, Evacuate the area and isolate the fire scene. Use appropriate extinguishing media based on the specific fire scenario. Cool exposed containers with water spray to prevent rupture. Avoid generating additional dust clouds during firefighting. Ensure proper ventilation to prevent the accumulation of toxic gases.

5.8 Special information:

Wear full protective gear, including a self-contained breathing apparatus (SCBA).

5.9 Special Precautions for Firefighters

In an emergency fire situation keep unauthorized personnel away from the area. Avoid inhalation of combustion gases, which may cause respiratory irritation or toxicity. Ensure adequate ventilation to dissipate smoke and fumes. After the fire is extinguished, thoroughly clean up residues while wearing protective equipment.

Section 6 - Accidental Release Measures

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

All non-essential personnel should be evacuated from the affected area. Entry should be restricted to authorized and trained personnel wearing appropriate personal protective equipment (PPE). To minimize exposure, individuals involved in cleanup should avoid breathing dust and prevent direct skin and eye contact. Adequate ventilation should be ensured to reduce airborne dust concentration.

6.1.1 In case of large spill

The area should be cordoned off, and personnel handling the material should wear respiratory protection (NIOSH-approved dust respirator or equivalent) if dust is present, safety goggles or full-face shield to prevent eye contact and impervious gloves and protective clothing to avoid skin exposure. To prevent static discharge, ensure proper grounding of equipment and avoid sources of ignition in the surrounding area.



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Section 6 - Accidental Release Measures

6.2 Environmental Precautions

Spilled material should be prevented from entering drains, waterways, or soil, as long-term contamination could affect aquatic and terrestrial ecosystems. If the material has entered a waterway, local environmental authorities must be notified immediately. Avoid high-pressure washing, which may spread the material into storm drains or sewage systems.

6.3 Methods and Materials for Containment and Cleaning Up

6.3.1 Small spills:

The material should be collected using a vacuum with HEPA filtration or damp sweeping to minimize dust dispersal. The collected waste should be placed into sealed, labeled containers for proper disposal.

6.3.2 Large spills:

Contain the spill by surrounding it with dry absorbent materials to prevent spreading. Moisten the spill area slightly (if compatible with material) to reduce dust formation. Carefully scoop or shovel the material into properly labeled disposal containers. Seal containers tightly to prevent further exposure. Ventilate the affected area and conduct air monitoring if necessary. All cleanup equipment should be properly decontaminated after handling the material to prevent secondary exposure.

6.4 Disposal:

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

6.5 Reference to Other Sections



Section 6 - Accidental Release Measures

For information on personal protective equipment (PPE), refer to Section 8 – Exposure Controls and Personal Protection. For information on waste disposal methods, refer to Section 13.

Section 7 - Handling and Storage

7.1 Precautions for safe handling:

Handle in a well-ventilated area with local exhaust ventilation (LEV) to minimize dust exposure. Avoid inhalation, skin contact, and eye contact. Use appropriate PPE, including gloves, safety goggles, and a dust respirator if necessary. Prevent dust accumulation, as airborne dust may pose a combustible hazard. Ensure proper grounding of equipment to avoid electrostatic discharge. Clean spills immediately using HEPA-filter vacuums or wet cleaning methods to prevent dust dispersal.

7.2 Storage

Store in a cool, dry, well-ventilated area, away from heat, moisture, and incompatible substances (e.g., strong oxidizers, acids, and bases). Keep containers tightly sealed and made of compatible materials. Avoid bulk dust accumulation and ensure storage areas have proper ventilation and fire suppression systems if handling large quantities. Inspect containers periodically for leaks or damage and store per local and international chemical safety regulations.

Section 8 - Exposure Controls / Personal Protection

8.1 Control Parameters

Occupational Exposure Limits (OELs):

Currently, no specific occupational exposure limits (OELs) have been established for Calcium Asparto Glycinate. However, general dust exposure limits should be followed:

Regulation	Inhalable Dust (TWA)	Respirable Dust (TWA)
OSHA PEL (Total Dust)	15 mg/m ³	5 mg/m ³
ACGIH TLV (Dust)	10 mg/m ³	3 mg/m ³



Workers should minimize exposure to airborne particles through proper engineering controls and PPE.

8.2 Exposure Controls

8.2.1 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.

8.3 Personal Protective Equipment (PPE)

8.3.1 Eye and Face Protection

Workers must wear safety goggles with side shields or a full-face shield if there is a risk of dust exposure.

8.3.2 Skin Protection

Long-sleeved clothing and chemical-resistant gloves (e.g., nitrile or neoprene) should be worn to prevent skin contact.

8.3.3 Respiratory Protection

If dust exposure is above recommended limits, a NIOSH-approved particulate respirator (N95 or better) should be used. In environments with excessive dust, an air-purifying respirator with HEPA filters may be required.

8.3.4 Hand Protection

Impermeable gloves (e.g., nitrile, PVC, or rubber) should be used when handling the material.

8.4 Hygiene Measures



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Section 8 - Exposure Controls / Personal Protection

Hands and exposed skin must be washed with soap and water after handling. Contaminated clothing should be removed and washed before reuse.

8.5 Environmental Exposure Controls

To prevent environmental contamination, waste materials and dust should not be released into sewers, drains, or natural water bodies. Spills should be contained and cleaned up according to

Section 6. For disposal regulations, refer to Section 13.

8.6 Personal precaution:

Safety glasses, Lab Coat, Dust respirator, be sure to use an approved / certified respirator or equivalent, Gloves.

8.7 Personal precaution 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. Suggested protective clothing might not be suitable.

Section 9 - Physical and Chemical Properties

Appearance: White free flowing powder with occasional friable lumps.

Upper/lower flammability or explosive limits: No data available

Odor: Odourless

Colour: White

Vapor pressure: No data available

Odor threshold: No data available

Vapor density: No data available

pH (1% aqueous solution): 6.5 – 7.5

Relative density: No data available

Melting point/freezing point: No data available

Solubility: Slightly soluble in water.



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Initial boiling point and boiling range:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Section 10 - Stability and Reactivity

10.1 Reactivity:

Not highly reactive

10.2 Stability:

The product is stable at normal conditions.

10.3 Possibility of Hazardous Reactions:

Under **extreme conditions**, reactions with **strong oxidizing agents** may produce **toxic gases** or decomposition products. **Airborne dust accumulation** may present a **combustible dust hazard** in confined spaces if exposed to an ignition source.

10.4 Instability Temperature:

Not available

10.5 Conditions to avoid:

Exposure to moisture, high temperatures, open flames, sparks, or electrostatic discharge in areas with airborne dust. Avoid prolonged exposure to air (may cause oxidation or quality deterioration).

10.6 Incompatible Materials:

Strong oxidizing agents, strong acids and bases and reducing agents.

10.7 Hazardous Decomposition Products: When heated to decomposition, Calcium Asparto Glycinate may release carbon oxides (CO, CO₂), nitrogen oxides (NO_x), calcium oxides (CaO)

10.8 Corrosivity: Non corrosive in presence of glass.

10.9 Special remarks on Reactivity: Not available



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Section 10 - Stability and Reactivity

10.10 Special remarks on Corrosivity: Not available

10.11 Polymerization: Will not occur

Section 11 - Toxicological Information

11.1 Routes of Entry:

Inhalation, Ingestion

11.2 Acute Toxicity:

Calcium Asparto Glycinate is considered to have low acute toxicity.

Oral LD50 (Rat): > 5,000 mg/kg (low toxicity)

Dermal LD50: No data available

Inhalation LC50: No data available

11.3 Skin Corrosion/Irritation:

Based on available data, Calcium Asparto Glycinate is not classified as a skin irritant. However, prolonged or repeated exposure may cause mild irritation, dryness, or redness.

11.4 Serious Eye Damage/Irritation:

Contact with eyes may cause transient irritation, redness, and discomfort. No permanent damage is expected under normal conditions of use.

11.5 Respiratory or Skin Sensitization:

This substance is not known to cause respiratory or skin sensitization. However, individuals with pre-existing respiratory conditions may experience increased sensitivity to airborne dust.

11.6 Germ Cell Mutagenicity:



Section 11 - Toxicological Information

There is no evidence that Calcium Asparto Glycinate causes genetic mutations or DNA damage based on available data.

11.7 Carcinogenicity:

This substance is not classified as a carcinogen by IARC, NTP, OSHA, or ACGIH. There is no evidence suggesting carcinogenic potential.

11.8 Reproductive Toxicity:

There is no data available indicating that this substance affects fertility or fetal development. Based on its chemical structure, no adverse reproductive effects are expected.

11.9 Specific Target Organ Toxicity – Single Exposure (STOT-SE):

Exposure to high concentrations of dust may cause temporary respiratory irritation, leading to coughing, shortness of breath, or throat discomfort. No systemic toxicity has been reported.

11.10 Specific Target Organ Toxicity – Repeated Exposure (STOT-RE):

There is no known evidence of significant systemic toxicity from long-term exposure. However, prolonged inhalation of dust may cause chronic respiratory irritation in sensitive individuals.

11.11 Aspiration Hazard:

This substance does not pose an aspiration hazard, as it is a solid with low volatility.

Section 12 - Ecological Information

12.1 Ecotoxicity:

12.1.1 Acute aquatic toxicity:

No data available

12.1.2 Chronic aquatic toxicity:

No data available



Section 12 - Ecological Information

12.1.3 Toxicity to fish (LC50):

No data available

12.1.4 Toxicity to daphnia and other invertebrates (EC50):

No data available

12.1.5 Toxicity to algae (IC50):

No data available

12.2 BOD 5 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.

12.3.1 Toxicity of products of biodegradation:

The Product itself and its products of degradation are not toxic.

12.3.2 Special remarks on the products of biodegradation:

Not Available

12.4 Bioaccumulative Potential:

Bioaccumulation of Calcium Asparto Glycinate is not expected due to its water solubility and natural metabolism.

12.5 Mobility in Soil:

The compound is slightly soluble in water, indicating moderate mobility in soil and water systems. It may leach into groundwater under high moisture conditions, though it is expected to break down naturally in the environment.

Section 13 - Disposal Considerations

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14 - Transport Information

14.1 UN Number:



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Section 14 - Transport Information

Calcium Asparto Glycinate is not classified as a hazardous material under transport regulations and does not require a UN number.

14.2 UN Proper Shipping Name:

Not classified as a dangerous good; therefore, no UN shipping name is assigned.

14.3 Transport Hazard Class(es):

DOT (U.S. Department of Transportation): Not regulated

IMDG (International Maritime Dangerous Goods): Not regulated

IATA (International Air Transport Association): Not regulated

ADR/RID (European Road & Rail Transport): Not regulated

This material does not pose a hazard in transport and is considered non-dangerous under standard shipping conditions.

14.4 Packing Group:

Not applicable, as the material is not classified as hazardous for transport.

14.5 Environmental Hazards:

Marine Pollutant (IMDG): No

Environmentally Hazardous Substance (ADR/RID, ICAO/IATA): No

14.6 Special Precautions for Transport:

No special handling or transport precautions are required.

14.7 Transport in Bulk According to Annex II of MARPOL and the IBC Code:

This material is not subject to bulk transport regulations under MARPOL (Marine Pollution) Annex II or the International Bulk Chemical (IBC) Code.

14.8 Identification:

Not applicable.

14.9 Special Provision for Transport:

Not applicable

14.10 IATA/ ADR Classification:

Not a hazardous substance.

Section 15 - Regulatory Information

15.1 Safety, Health, and Environmental Regulations/Legislation Specific for the Substance or Mixture:

United States (U.S.) Regulations



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Section 15 - Regulatory Information

OSHA (Occupational Safety and Health Administration) Hazard Communication Standard (29 CFR 1910.1200): Not classified as a hazardous substance.

TSCA (Toxic Substances Control Act): Not listed. This material is not subject to TSCA regulations.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): Not classified as a hazardous substance.

SARA Title III (Superfund Amendments and Reauthorization Act):

Section 302 (Extremely Hazardous Substances): Not listed.

Section 304 (Emergency Release Notification): Not required.

Section 311/312 (Hazard Categories): Not hazardous.

Section 313 (Toxic Chemical Release Inventory Reporting): Not applicable.

European Union (EU) Regulations

Regulation (EC) No 1907/2006 (REACH - Registration, Evaluation, Authorisation, and Restriction of Chemicals):

Not classified as hazardous under REACH regulations.

Not listed as a Substance of Very High Concern (SVHC).

CLP Regulation (EC No. 1272/2008 - Classification, Labelling, and Packaging): Not classified as a hazardous substance.

EINECS (European Inventory of Existing Commercial Chemical Substances): Not listed.

Canada Regulations

WHMIS (Workplace Hazardous Materials Information System) Classification: Not hazardous.

DSL (Domestic Substances List) / NDSL (Non-Domestic Substances List): Not listed.

Australia Regulations

AICS (Australian Inventory of Chemical Substances): Not listed.

Japan Regulations

ENCS (Existing and New Chemical Substances Inventory): Not listed.

China Regulations

IECSC (Inventory of Existing Chemical Substances in China): Not listed.

Other Global Regulations

New Zealand (NZIoC - New Zealand Inventory of Chemicals): Not listed.

South Korea (KECL - Korean Existing Chemicals List): Not listed.

Philippines (PICCS - Philippine Inventory of Chemicals and Chemical Substances): Not listed.

India (Manufacture, Storage and Import of Hazardous Chemical Rules): Not classified as hazardous.



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Section 15 - Regulatory Information

15.2 Chemical Safety Assessment: A Chemical Safety Assessment (CSA) has not been conducted for Calcium Asparto Glycinate under REACH or other global regulatory frameworks.

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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01