



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 Ascorbate

1.2 Product Code: CASUS98

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

For the fortification of foods, Ingredient/additive for dietary supplements

1.4 Company Identification:

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Section 2 – Hazards Identification

2.1 Classification of the substance or mixture:

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.2 Label elements:

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

2.3 Hazards not otherwise classified (HNOC):

Not applicable

2.4 Potential. Chronic/ acute health effects:

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

2.5 Classification of the substance or mixture:

Not a hazardous substance or mixture.

2.6 GHS Label elements, including precautionary statements:

Not a hazardous substance or mixture.

2.7 Hazards not otherwise classified (HNOC) or not covered by GHS:





Section 2 – Hazards Identification

none

2.8 Carcinogenic effects:

Not available.

2.9 Mutagenic effects:

Not available.

2.10 Teratogenic effects:

Not available.

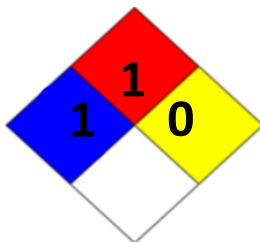
2.11 Developmental toxicity:

Not available.

2.15 Pictogram



2.16 NFPA SCALE:



NFPA SCALE (0-4)

2.17 HMIS RATINGS:

Health	1
Flammability	1
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)





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Section 3: Composition/Information on Ingredients

3.1 Ingredient Name: Calcium Ascorbate

3.2 Synonym: Ascorbic Acid calcium salt Vitamin C calcium salt

3.3 CAS Number: 5743-28-2

3.4 EC no: 227-261-5

3.5 Molecular formula: $C_{12}H_{18}CaO_{14}$

3.6 Molecular weight: 426.34 g/mol

Section 4 - First Aid Measures

4.1 Description of first aid measures:

4.1.1 General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.1.2 If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.1.3 In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

4.1.4 In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.1.5 If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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

The most important known symptoms and effects are described in the labeling and/or in section 11

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

No data available





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Section 5 - Fire-Fighting Measures

5.1 Flammability of the Product:

May be combustible at high temperature.

5.2 Suitable Extinguishing Media:

Water spray. Alcohol-resistant foam. Dry chemical. Carbon dioxide (CO₂).

5.3 Auto-Ignition Temperature:

> 460 °C

5.4 Flash Points:

300 °C / 572 °F CC (closed cup).

5.5 Flammable Limits:

Not available.

5.6 Products of Combustion:

Products of combustion are carbon oxides (CO, CO₂), Hydrogen fluoride. Some metallic oxides.

5.7 Products of Decomposition:

acetone and calcium carbonate

5.8 Fire Hazards in Presence of Various Substances:

Not available.

5.9 Special hazards arising from the substance or mixture:

Formation of toxic gases is possible during heating or in case of fire

5.10 Risks of explosion of the product in presence of mechanical impact/ static discharge:

Not available.

5.11 Fire Fighting Media and Instructions:

5.11.1 Small fire:

Use DRY chemical powder.

5.11.2 Large fire:

Use water spray, fog or foam. Do not use water jet.

5.12 Special Remarks on Explosion Hazards:

Not available.

5.13 Special protective equipment for fire-fighters:

Firefighters should wear self-contained breathing apparatus and full firefighting turn out gear.

Use personal protection equipment.





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Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid dust formation.

6.2 Environmental precautions:

Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Should not be released into the environment

6.3 Methods and material for containment and cleaning up:

6.3.1 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.

6.3.2 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 evacuating through the sanitary system.





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Section 7 - Handling and Storage

7.1 Precautions for safe handling:

7.1.1 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. Keep away from incompatibles such as oxidizing agents, moisture.

7.1.2 Hygiene measures:

General industrial hygiene practice.

7.1.3 Advice on safe handling:

For personal protection see section 8.

7.1.4 Suitable materials:

Stainless steel, coated steel (protective lacquer), glass, polyethylene, polypropylene, enamel and not easy to corrosion material by acid and alkali.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place.

7.2.2 Storage class

Storage class (TRGS 510): 11: Combustible Solids.

7.2.3 Packaging materials:

Tightly closing; material: coated steel (protective lacquer), glass, polyethylene, polypropylene, PVC and so on.

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 limit. If user operations generate dust, fume or





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Section 8 - Exposure Controls / Personal Protection

mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

8.2 Personal protective equipment:

8.2.1 Eye protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

8.2.2 Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

8.2.3 Body Protection:

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

8.2.4 Respiratory protection:

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.





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Section 8 - Exposure Controls / Personal Protection

8.4 Exposure Limits:

Not available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	White to slightly yellow powder
Physical State	Solid, powder in nature.
Odor	Odourless
Odor Threshold	Not available
Explosive Properties	No information available
Oxidizing Properties	No information available
pH (of 10% w/v Solution)	6.8-7.4
Melting point / Freezing point	166 °C / 331 °F Literary Reference
Boiling point / boiling range	No information available
Flash Point	300 °C / 572 °F CC (closed cup)
Minimum ignition temperature of a dust/air mix	460 °C
Relative density	0.7 g/cm ³ .
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	No information available
Upper flammability limit	No information available
Lower flammability limit	Not available
Vapor Pressure	No information available
Vapor Density	Not available
Specific Gravity	No information available
Bulk density	ca. 0.7 g/cm ³
Water Solubility	ca. 500 g/l
Solubility in other solvents	Ethanol: practically insoluble





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Section 9 - Physical and Chemical Properties

	Methanol: practically insoluble
	Diethyl ether: insoluble
Partition coefficient: n-octanol/water	Not available
Autoignition temperature °C	No Data Available Estimated
Decomposition temperature	No Data Available
Kinematic Viscosity	No information available
Dynamic Viscosity	Not available

Section 10 - Stability and Reactivity

10.1 Reactivity:

No data available

10.2 Chemical stability:

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions:

No data available

10.4 Thermal decomposition / conditions to be avoided:

Formation of toxic gases is possible during heating or in case of fire.

10.5 Conditions to avoid:

Heat, Exposure to air. (as aqueous solution)

10.6 Incompatible materials:

Strong oxidizing agents, Strong acids and strong bases

10.7 Hazardous decomposition products/ Other decomposition products:

Carbon monoxide. Carbon dioxide (CO₂). Calcium/calcium oxides.





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Section 11 - Toxicological Information

11.1 Routes of Entry:

Inhalation. Ingestion.

11.2 Toxicity to Animals:

Acute toxicity:

LD50: 14,500 mg/kg (oral, rat)

LD50: 8'000 mg/kg (oral, mouse)

LD50: 518 mg/kg (i.v., mouse)

11.3 Chronic Effects on Humans:

Not available.

11.4 Special Remarks on Toxicity to Animals:

Not available.

11.5 Carcinogenicity:

No indication for carcinogenicity known.

11.6 Reproductive toxicity:

This information is not available.

11.7 Teratogenicity:

not teratogenic. not embryotoxic. Test performed using a similar product.

11.8 STOT - single exposure (Acute exposure):

The substance or mixture is not classified as specific target organ toxicant, single exposure.

11.9 STOT - repeated exposure:

NOAEL (Oral, Rat) : 2000 mg/kg bw/d

Chronic toxicity study (2 years)

11.10 Experience with human exposure:

RDA (Recommended Daily Allowance) 60 mg

11.11 Skin contact:

May be slightly irritating, especially on damp skin.

11.12 Ingestion:

Oral intake up to 9 g ascorbic acid per day does not produce any serious toxic effects. However, diarrhoea can occur even with lower consumption levels.

11.13 Aspiration toxicity:





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Section 11 - Toxicological Information

No aspiration toxicity classification

11.14 Chronic toxicity:

In predisposed individuals 4-12 g/d may cause urinary calculus

Section 12 - Ecological Information

12.1 Ecotoxicity:

12.1.1 Toxicity to fish: *Salmo gairdneri* (rainbow trout) LC50 (48 h) > 1,000 mg/l
rainbow trout) LC50 (96 h) 1020 mg/l

12.1.2 Toxicity to bacteria: activated sludge 80 mg/l No inhibition was observed under the biodegradation test conditions. tested as the sodium salt.

12.2 Persistence and degradability:

12.2.1 Biodegradability:

47 % (5 d) (OECD Test Guideline 301D) : Well inherently biodegradable.

92 % (7 d), 15 % (1 d), (OECD Test Guideline 302B)

12.2.2 BOD5 and COD:

Not available.

12.2.3 Products of Biodegradation:

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

12.2.4 Toxicity of the Products of Biodegradation:

The products of degradation are more toxic.

12.2.5 Special Remarks on the Products of Biodegradation:

Not available.

12.3 Mobility in soil:

Distribution among environmental compartments: No data available

12.4 Results of PBT and vPvB assessment:

Assessment: The substance does not fulfill the PBT and vPvB criteria.





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Section 12 - Ecological Information

12.5 Other adverse effects:

Additional ecological information: There is no data available for this product.

Section 13 - Disposal Considerations

13.1 Waste Disposal:

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

13.2 Contaminated packaging:

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14 - Transport Information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks: Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

14.8 DOT Classification:

Not a DOT controlled material.





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Section 14 - Transport Information

14.9 Air transport Goods:

Nonhazardous/non dangerous as per IATA DGR

14.10 Special Provisions for Transport:

Not applicable

14.11 IATA Specification:

Non-dangerous, non-hazardous

Section 15 - Regulatory Information

International Inventories

TSCA Not listed

Note *Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

DSL/NDSL Complies

EINECS/ELINCS Does not Comply

ENCS This product complies with ENCS:

IECSC This product does not comply with china:

KECL Does not Comply

PICCS Does not Comply

AICS This product does not comply with AICS

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313





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Section 15 - Regulatory Information

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): This product is not classified according to the EU regulations.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: a

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

Health: 1

Flammability: 1

Reactivity: 0





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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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