

CALCIUM LIGNOSULPHONATE

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

CALCIUM LIGNOSULPHONATE

Synonyms: Calcium lignosulfonate; Lignin sulfonate, calcium salt

CAS: 8061-52-7

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Water-reducing/plasticising admixture in concrete and cement formulations; dust-suppression binder for unpaved roads; pelletising binder in animal feed; dispersant for dyes/pigments and agrochemical formulations; auxiliary in oil-well drilling fluids; tanning agent. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS

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1.4 Emergency phone number:

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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:

Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Not classified as hazardous substance or mixture under GHS criteria based on available data.

2.2 GHS label elements, including precautionary statements:

GHS: No signal word, pictogram or hazard statement required.

Hazard statements:

None assigned.

Precautionary statements:

P264: Wash exposed skin thoroughly after handling.

P280: Wear protective gloves/eye protection.

2.3 Other hazards which do not result in classification:

A natural wood-pulping by-product (lignin derivative); dust may cause transient mechanical irritation to eyes and respiratory tract. Not a PBT or vPvB substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Calcium Lignosulphonate (modified natural polymer derived from the sulphite wood-pulping process)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 8061-52-7	Calcium Lignosulphonate — Not classified as hazardous	≥ 90% (technical grade; composition is a complex natural polymer mixture – exact assay available on request)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable – this product is a naturally derived substance (a complex mixture of lignosulphonate polymers of varying molecular weight, as produced); treated here as a single substance per standard industry practice.

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance in case of discomfort or when in doubt, showing the SDS of this product.

By inhalation:

Remove to fresh air if dust is inhaled and irritation occurs.

By skin contact:

Wash with plenty of water and soap. Remove contaminated clothing.

By eye contact:

Rinse thoroughly with plenty of water for several minutes, holding eyelids open. Seek medical attention if irritation persists.

By ingestion/aspiration:

Rinse the mouth with water. If a large quantity is swallowed, seek medical advice.

4.2 Most important symptoms/effects, acute and delayed:

May cause transient mechanical irritation to eyes and respiratory tract due to dust. No significant systemic effects expected at normal occupational exposure.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Treat symptomatically. No specific antidote.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water spray, foam, dry chemical powder, carbon dioxide.

Unsuitable: High-pressure water jet (may scatter dust).

- 5.2 Specific hazards arising from the chemical:**
Combustible organic solid; fine dust dispersed in air may present a combustible/explosible dust hazard in the presence of an ignition source and sufficient concentration (as with many fine organic powders).
- 5.3 Special protective actions for fire-fighters:**
Standard fire-fighting protective equipment including self-contained breathing apparatus, given potential smoke/combustion products.
- Additional provisions:**
Avoid creating dust clouds near ignition sources. Cool containers/bulk storage exposed to fire with water spray if safe to do so.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures:**
For non-emergency personnel:
Evacuate unnecessary personnel. Keep upwind. Ventilate the area. Use the personal protective equipment described in Section 8. Avoid contact with skin, eyes and clothing. Avoid generating and inhaling dust.
For emergency responders:
Wear suitable protective equipment as described in Section 8. Act only if trained and equipped for the task.
- 6.2 Environmental precautions:**
Prevent large spills from entering drains, watercourses or soil. May exert biochemical/chemical oxygen demand and impart colour to water in large quantities.
- 6.3 Methods and materials for containment and cleaning up:**
Sweep up or vacuum (avoid dust generation) and place in a suitable, labelled container for reuse (preferred) or disposal. Spilled material may be slippery when wet.
- 6.4 Reference to other sections:**
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling:**
A. General precautions for safe use:
Avoid generating and inhaling dust. Use local exhaust ventilation where dusting may occur. Avoid contact with eyes.
B. Technical recommendations for the prevention of fires and explosions:
Avoid accumulation of fine dust and control ignition sources in dusty atmospheres, as a precaution against combustible dust. Use earthing/bonding for bulk powder-handling equipment as good practice.
C. Technical recommendations on general occupational hygiene:
Do not eat, drink or smoke during handling; wash hands and exposed skin thoroughly after handling.
D. Technical recommendations to prevent environmental risks:
Avoid uncontrolled discharge to the environment. Follow the protective measures in Section 8.
- 7.2 Conditions for safe storage, including any incompatibilities:**
A. Specific storage requirements:
- | | |
|---------------------|--|
| Storage temperature | Ambient |
| Maximum shelf life | Typical value — refer to current specification sheet |
- B. General conditions for storage:**
Store in a cool, dry, well-ventilated place in tightly closed containers/bags, away from strong oxidisers and open flame/ignition sources. Protect from moisture (hygroscopic; may cake or support microbial growth if dampened).
- 7.3 Specific end use(s):**
Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1 Control parameters:**
No specific occupational exposure limit established for calcium lignosulphonate. Treat as a nuisance dust: as a general guide, the Factories Act, 1948 framework recommends total inhalable dust not otherwise classified be kept below 10 mg/m³ (TWA, 8 hr) and respirable dust below 4 mg/m³ (TWA, 8 hr).
- 8.2 Appropriate engineering controls:**
Ensure adequate general and/or local exhaust ventilation to keep exposure below the occupational exposure limits (where established) and to keep dust concentrations as low as reasonably practicable. Eyewash station and safety shower should be available in the work area. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.
- B. Respiratory protection:**
Not normally required with adequate ventilation. Where dust levels may be exceeded, use a particulate filter (dust) mask.
- C. Specific protection for the hands:**
Protective gloves against minor risks (e.g. cotton or nitrile).
- D. Eye and face protection:**
Safety glasses or goggles when handling/charging to avoid dust contact with eyes.
- E. Bodily protection:**
Standard industrial workwear; dust mask/apron for prolonged bulk handling.
- F. Additional emergency measures:**
Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available in the immediate work area.
- Environmental exposure controls:**
Avoid release of the product to drains, soil and watercourses. See subsection 7.1.D and Section 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties:**
- | Appearance | |
|---------------------------------------|---|
| Physical state at 20°C | Solid (powder or granules) |
| Appearance | Light brown to dark brown powder/granules |
| Odor | Mild, characteristic (woody) |
| Odour threshold | Not established for this grade |
| Volatility | |
| Boiling point at atmospheric pressure | Not applicable (solid polymer; decomposes before boiling) |
| Vapour pressure at 20°C | Negligible |
| Evaporation rate at 20°C | Not relevant (solid) |
| Product Description | |
| Density / Relative density at 20°C | Typical value — refer to current specification sheet |
| Bulk density | Typical value — refer to current specification sheet |

pH (aqueous solution, 1% w/v)	≈ 4.0 – 6.5 (slightly acidic)
Partition coefficient n-octanol/water	Not relevant (polymeric substance)
Solubility in water at 20°C	Readily soluble/dispersible
Decomposition temperature	Typical value — refer to current specification sheet
Melting point/freezing point	Not applicable (amorphous polymer; chars/decomposes on strong heating)
Flammability	
Flash Point	Non-applicable (solid)
Flammability (solid, gas)	Combustible organic solid (not readily/spontaneously flammable)
Autoignition temperature	Typical value — refer to current specification sheet
Lower / Upper flammability limit	Dust cloud may be combustible – see section 5.2
Particle Characteristics	
Median equivalent diameter	Typical value — refer to current specification sheet

Molecular weight: Not applicable – polymeric substance of variable molecular weight. Values are typical literature/specification values for this well-characterised commercial grade; minor batch-to-batch variation is normal, as expected for a naturally derived product.

9.2 Other information:

Explosive properties	Not explosive (bulk solid); fine dust clouds may present a combustible dust hazard
Oxidising properties	Not oxidising
Corrosive to metals	Not corrosive
Heat of combustion	Typical value — refer to current specification sheet
Surface tension at 20°C	Not relevant (solid)
Refraction index	Not relevant

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions of use. No hazardous reactivity expected with common materials; as an organic reducing-type material, avoid contact with strong oxidising agents.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use when kept dry.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions are not expected, other than potential combustible-dust effects (see section 5.2) and reaction with strong oxidisers.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Avoid dust-cloud ignition sources	No specific hazard	Avoid open flame/high heat	No specific hazard	Avoid prolonged dampness (caking/microbial growth)

10.5 Incompatible materials:

Strong Oxidisers	Strong Acids/Bases	Ignition Sources
Avoid contact	Avoid prolonged contact with strong acids/bases	Keep away (dust hazard)

10.6 Hazardous decomposition products:

Combustion/strong thermal decomposition may produce carbon monoxide, carbon dioxide and irritant smoke/fumes, as with other organic materials.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Calcium lignosulphonate is of low acute toxicity, consistent with its origin as a natural wood-derived polymer. In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect):

Low toxicity. Large doses may cause mild gastrointestinal discomfort.

B. Inhalation (acute effect):

Dust may cause mechanical irritation of the respiratory tract.

C. Contact with skin and eyes (acute effect):

Not generally irritating under normal handling; may cause transient mechanical irritation to eyes from dust.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria are not met based on available data. Not listed by IARC.

E. Sensitizing effects:

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Not relevant (solid).

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Calcium Lignosulphonate CAS: 8061-52-7	LD50 oral: > 2000 mg/kg	Rat
	LD50 dermal: Not established for this grade	–

SECTION 12: ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment under GHS criteria based on available data.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Calcium Lignosulphonate	LC50: > 100 mg/L (96h)	Non-applicable	Fish

CAS: 8061-52-7	EC50: Not established for this grade	Non-applicable	Crustacean
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12.2 Persistence and degradability:

Lignosulphonates are derived from a natural polymer (lignin) and are inherently/partially biodegradable, though biodegradation is slower than for simple organics due to the polymer's complex aromatic structure.

12.3 Bioaccumulative potential:

Low potential; high molecular weight and water solubility limit bioaccumulation.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Moderate (binds to soil organic matter/clay)	Not relevant	Low to moderate mobility	Low to moderate mobility

12.5 Results of PBT and vPvB assessment:

Does not meet PBT/vPvB criteria based on available data.

12.6 Other adverse effects:

May impart colour (brown) and exert biochemical oxygen demand on receiving water if released in large quantities.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Recover for reuse where possible. Non-hazardous waste; dispose of via an authorised waste contractor in accordance with local regulations.

Refer to national and local regulations on waste management. In India, dispose of in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended, through an authorised waste handler/recycler, or as advised by the State Pollution Control Board.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023 principles, as adapted for India):

14.1 UN number	Not assigned – not a dangerous good
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport; physico-chemical properties: see section 9
14.7 Transport in bulk	Permitted subject to standard bulk-solid handling practice

Transport of dangerous goods by sea (IMDG):

14.1 UN number	Not assigned – not a dangerous good
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk	Permitted subject to standard bulk-solid handling practice

Transport of dangerous goods by air (IATA/ICAO):

14.1 UN number	Not assigned – not a dangerous good
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk	Permitted subject to standard bulk-solid handling practice

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation (India):

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 (as amended)
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

Not applicable – no hazard classification assigned to this product.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS); European Chemicals Agency (ECHA) Classification & Labelling Inventory; United Nations Recommendations on the Transport of Dangerous Goods (Model Regulations).

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | PG: Packing Group | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-Pow: Octanol-water partition coefficient | IARC: International Agency for Research on Cancer | STOT SE/RE: Specific Target Organ Toxicity, Single/Repeated Exposure | PBT/vPvB: Persistent, Bioaccumulative and Toxic / very Persistent, very Bioaccumulative

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET