

CALCIUM PEROXIDE

Date of compilation: 12-08-2026 | Revised: 12-08-2026 | Version: 1

SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

CALCIUM PEROXIDE

Calcium Dioxide

CAS: 1305-79-9

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Oxygen-release agent for soil/water remediation and aquaculture, seed coating, dough conditioner/flour treatment agent, oxidizing agent in various industrial formulations. 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

No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India

Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281

Email: sales@surajchemicals.com | Website: www.surajchemicals.com

GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

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).

Ox. Sol. 2	Oxidizing solid, Category 2, H272
Acute Tox. 4 (Oral)	Acute oral toxicity, Category 4, H302
Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Irrit. 2A	Eye irritation, Category 2A, H319
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

Ox. Sol. 2: H272 – May intensify fire; oxidizer.

Acute Tox. 4: H302 – Harmful if swallowed.

Skin Irrit. 2: H315 – Causes skin irritation.

Eye Irrit. 2A: H319 – Causes serious eye irritation.

STOT SE 3: H335 – May cause respiratory irritation.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220: Keep away from clothing and other combustible materials.

P221: Take any precaution to avoid mixing with combustibles/organic materials.

P261: Avoid breathing dust.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P302+P352: IF ON SKIN: Wash with plenty of water.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378: In case of fire, use water spray or fog to extinguish.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification:

Strong oxidizer; releases hydrogen peroxide and calcium hydroxide on contact with water. Contact with combustible/organic materials may cause fire. Not a PBT or vPvB substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Calcium Peroxide

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

Identification	Chemical Name / Classification	Concentration
CAS: 1305-79-9	Calcium Peroxide — Ox. Sol. 2: H272; Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Irrit. 2A: H319; STOT SE 3: H335 – Danger	≥ 60% (technical grade; balance calcium hydroxide/carbonate)

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

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:
Remove the affected person to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if breathing difficulty persists.

By skin contact:
Remove contaminated clothing and footwear. Wash skin thoroughly with plenty of water and soap. Seek medical attention if irritation persists.

By eye contact:
Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention.

By ingestion/aspiration:
Rinse mouth with water. Do not induce vomiting. Give plenty of water to drink if the person is conscious. Seek medical attention immediately.

4.2 Most important symptoms/effects, acute and delayed:
Irritation of eyes, skin and respiratory tract. Harmful if swallowed. See sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:
Treat symptomatically. No specific antidote known.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:
Suitable: Water spray/fog is preferred, as it also cools and dilutes the oxidizer.
Unsuitable: Avoid using dry chemical powder alone on bulk fires involving this oxidizer; use with water where possible.

5.2 Specific hazards arising from the chemical:
Non-combustible itself but is a strong oxidizer that releases oxygen on decomposition and can intensify fire involving combustible/organic materials. Reacts with water/moisture to release hydrogen peroxide and heat.

5.3 Special protective actions for fire-fighters:
Evacuate non-essential personnel. Wear self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water spray from a safe distance.

Additional provisions:
Avoid inhalation of dust/fumes. Contain fire-fighting water run-off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel:
Remove sources of ignition and combustible/organic material from the vicinity. Avoid raising dust. Use personal protective equipment as per section 8.

For emergency responders:
Wear suitable protective equipment including respiratory protection. See section 8.

6.2 Environmental precautions:
Avoid release to drains, water courses or soil. Contain spillage; avoid contact with water during clean-up where possible to limit heat/gas generation.

6.3 Methods and materials for containment and cleaning up:
Sweep up carefully (avoid dust generation) and place in a suitable, clean, dry, labelled container away from combustible materials and water for disposal or recovery.

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 generation and inhalation of dust. Avoid contact with eyes and skin. Keep away from combustible/organic materials, reducing agents, powdered metals and moisture.

B. Technical recommendations for the prevention of fires and explosions:
Segregate from combustible and organic materials, reducing agents and metal powders. Keep containers tightly closed, dry, and away from heat/ignition sources. For bulk storage, consult Suraj Chemicals.

C. Technical recommendations on general occupational hygiene:
Do not eat, drink or smoke while handling. Wash hands thoroughly after use.

D. Technical recommendations to prevent environmental risks:
Prevent spillage from entering drains or water courses.

7.2 Conditions for safe storage, including any incompatibilities:
A. Specific storage requirements:

Minimum Temp.	Ambient
Maximum Temp.	30°C
Maximum time	Typical value – refer to current specification sheet

B. General conditions for storage:
Store in a cool, dry, well-ventilated place in tightly closed, moisture-proof containers, segregated from combustible/organic materials, reducing agents and water. For additional information see subsection 10.5.

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 peroxide itself. As the product may release hydrogen peroxide on contact with moisture, the following limit for hydrogen peroxide (CAS 7722-84-1) is relevant as a guide, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

Identification	Occupational Exposure Limit Type	Value
Hydrogen Peroxide (decomposition product) CAS: 7722-84-1	Time Weighted average concentration (8 hrs)	1 ppm / 1.4 mg/m³

8.2 Appropriate engineering controls:
Use local exhaust ventilation where dust may be generated.

B. Respiratory protection:
Dust mask/respirator (e.g., N95/FFP2 or higher) recommended where dust is generated.

C. Specific protection for the hands:
Chemical-resistant gloves (nitrile). Replace gloves at any sign of damage.

D. Eye and face protection:
Chemical safety goggles against dust and splash.

E. Bodily protection:
Chemical-resistant protective clothing; antistatic footwear recommended given oxidizer hazard.

F. Additional emergency measures:

Emergency shower and eyewash stations should be available in the work area.

Environmental exposure controls:

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (powder)
Appearance	Pale yellow to yellowish-white powder
Color	Pale yellow / yellowish-white
Odor	Faint, odorless to slightly acrid
Odour threshold	Not relevant
Volatility	
Decomposition temperature	≈ 275°C (releases oxygen)
Vapour pressure at 20°C	Negligible (solid)
Evaporation rate at 20°C	Non-applicable (solid)
Product Description	
Molecular weight	≈ 72.08 g/mol
Density / Relative density at 20°C	≈ 2.9 g/cm³
Bulk density	Typical value – refer to current specification sheet
pH (aqueous suspension)	≈ 9.0 – 11.0 (alkaline)
Solubility in water at 20°C	Slightly soluble; reacts to release hydrogen peroxide and calcium hydroxide
Partition coefficient n-octanol/water	Not relevant (inorganic salt)
Melting point/freezing point	Decomposes before melting (see decomposition temperature)
Flammability	
Flash Point	Non-applicable
Flammability (solid, gas)	Non-flammable but oxidizing – supports combustion
Autoignition temperature	Non-applicable
Lower / Upper flammability limit	Non-applicable
Particle Characteristics	
Median equivalent diameter	Typical value – refer to current specification sheet

* Values marked "Typical value" are not standardized and vary by batch/grade – refer to the current specification sheet.

9.2 Other information:

Explosive properties	Not explosive on its own; strong oxidizer
Oxidising properties	H272 – May intensify fire; oxidizer (Ox. Sol. 2)
Corrosive to metals	May be mildly corrosive to some metals in moist conditions
Heat of combustion	Non-applicable (non-combustible)
Viscosity	Non-applicable (solid)
Refraction index	Not relevant

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Strong oxidizer. Reacts with water/moisture releasing hydrogen peroxide, oxygen and heat. Reacts, potentially vigorously, with combustible/organic materials, reducing agents and powdered metals.

10.2 Chemical stability:

Stable under recommended storage conditions (cool, dry, closed containers, away from combustibles and moisture). Decomposes gradually on exposure to moisture or heat, releasing oxygen.

10.3 Possibility of hazardous reactions:

May decompose exothermically if contaminated with combustible/organic materials, reducing agents or metal powders, with risk of fire. Contact with water generates heat and oxygen/hydrogen peroxide; closed containers may build pressure.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Avoid	Not significant	Avoid – accelerates decomposition above 275°C	Not significant	Avoid – reacts with moisture

10.5 Incompatible materials:

Combustible / Organic Materials	Reducing Agents	Powdered Metals	Water / Moisture
Avoid contact – fire/explosion risk	Avoid contact – vigorous reaction	Avoid contact	Avoid – generates heat/oxygen

10.6 Hazardous decomposition products:

Oxygen and hydrogen peroxide on contact with moisture; calcium oxide/hydroxide residues on strong thermal decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

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):

Harmful if swallowed. May cause irritation/corrosive-type effects of the mouth, throat and gastrointestinal tract due to local oxidizing/alkaline action.

B. Inhalation (acute effect):

Dust may cause irritation of the nose, throat and respiratory tract.

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

Causes skin irritation. Causes serious eye irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

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:
May cause respiratory irritation (H335).

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 Peroxide CAS: 1305-79-9	LD50 oral: ≈ 160 – 1000 mg/kg (grade dependent)	Rat
	LD50 dermal: Not established	–

SECTION 12: ECOLOGICAL INFORMATION

Releases hydrogen peroxide and calcium hydroxide on hydrolysis; moderate aquatic toxicity possible at point of release due to local pH/oxidative effects, dissipating as the peroxide decomposes.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Calcium Peroxide CAS: 1305-79-9	LC50: Data not available (hydrolyses rapidly to H2O2/Ca(OH)2)	Non-applicable	Fish

12.2 Persistence and degradability:
Hydrolyses in water/moist environments to hydrogen peroxide (which further decomposes to oxygen and water) and calcium hydroxide; not persistent.

12.3 Bioaccumulative potential:
Not expected to bioaccumulate (inorganic salt, log Pow not applicable).

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	Low mobility (reacts with soil moisture)	Reacts in situ (oxygen release)

12.5 Results of PBT and vPvB assessment:
Non-applicable – inorganic substance, PBT/vPvB criteria do not apply.

12.6 Other adverse effects:
Localized pH elevation and oxidative stress possible at high point-source concentrations in aquatic environments.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:
Allow controlled hydrolysis by slow addition to a large volume of water under supervision, then neutralize/treat residual peroxide before disposal, or dispose of via a licensed hazardous-waste contractor in accordance with local regulations. Keep separate from combustible waste.
Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	UN1457
14.2 UN proper shipping name	CALCIUM PEROXIDE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	II
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	UN1457
14.2 UN proper shipping name	CALCIUM PEROXIDE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	II
14.5 Marine pollutant	No
14.6 Special precautions for user	EmS Codes: F-A, S-Q Segregation group: Not relevant
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	UN1457
14.2 UN proper shipping name	CALCIUM PEROXIDE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	II
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

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:

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Public Liability Insurance Act, 1991

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:

H272: May intensify fire; oxidizer.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

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:

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification references.

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 | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

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