SAFETY DATA SHEET

STABLE BLEACHING POWDER — VIKRAM BRAND (GRASIM)

CAS No.: 7778-54-3 (calcium hypochlorite, active ingredient)

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

STABLE BLEACHING POWDER — VIKRAM BRAND (GRASIM)
Calcium Hypochlorite (stabilized grade); Chlorinated Lime, Stabilized

CAS: 7778-54-3 (calcium hypochlorite, active ingredient)

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Disinfectant and bleaching agent for water treatment, sanitation of surfaces/effluent, textile and general industrial bleaching. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3. Do not mix with acids, ammonia or organic materials.

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

Emergency phone number

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

2. HAZARDS IDENTIFICATION

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), based on standard data for calcium hypochlorite at this available chlorine concentration (approx. 30–35% w/w).

Ox. Sol. 2	Oxidizing solid, Category 2, H272
Acute Tox. 4	Acute oral toxicity, Category 4, H302
Skin Corr. 1B	Skin corrosion, Category 1B, H314
Eye Dam. 1	Serious eye damage, Category 1, H318
STOT SE 3	Respiratory tract irritation, Category 3, H335
Aquatic Acute 1	Hazardous to the aquatic environment, acute hazard, Category 1, H400
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic hazard, Category 1, H410

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 Corr. 1B: H314 – Causes severe skin burns and eye damage.
Eye Dam. 1: H318 – Causes serious eye damage.
STOT SE 3: H335 – May cause respiratory irritation.
Aquatic Acute 1: H400 – Very toxic to aquatic life.
Aquatic Chronic 1: H410 – Very toxic to aquatic life with long lasting effects.

Precautionary statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P221: Take any precaution to avoid mixing with combustibles.
P260: Do not breathe dust/fumes.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with 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.
P310: Immediately call a POISON CENTER/doctor.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations on hazardous waste.

Other hazards which do not result in classification	Contact with acids, ammonia, or organic/combustible materials liberates toxic chlorine gas and may cause fire.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

Chemical description: Formulated calcium hypochlorite / hydrated lime blend (stabilized bleaching powder), free-flowing powder

Identification	Chemical Name / Classification	Concentration
CAS: 7778-54-3	Calcium hypochlorite – Ox. Sol. 2: H272; Acute Tox. 4: H302; Skin Corr. 1B: H314; Eye Dam. 1: H318; STOT SE 3: H335; Aquatic Acute 1: H400; Aquatic Chronic 1: H410	Available chlorine: approx. 30–35% w/w
CAS: 1305-62-0 / 1305-79-9	Calcium hydroxide / calcium oxide (stabilizer/carrier, formulated grades) – Skin Irrit. 2 H315; Eye Dam. 1 H318	Balance (carrier/stabilizer, grade dependent)

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

4. FIRST AID MEASURES

Description of necessary first-aid measures

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

By inhalation

Remove the person affected from the area of exposure, provide fresh air and keep at rest. In serious cases, seek immediate medical assistance.

By skin contact

Remove contaminated clothing and footwear immediately. Rinse skin thoroughly with plenty of water for at least 15 minutes. Seek medical attention – may cause severe burns.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek immediate medical attention – may cause serious eye damage.

By ingestion/aspiration

Rinse mouth with water. Do NOT induce vomiting. Give water to drink if the person is conscious. Seek immediate medical attention/call a poison centre.

Most important symptoms/effects, acute and delayed	Severe burns to skin, eyes and mucous membranes. Respiratory irritation. Reaction with acids/organics releases toxic chlorine gas. See sections 2 and 11.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically. Chlorine gas exposure may require oxygen therapy and observation for delayed pulmonary effects.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	**Suitable:** Flood with large quantities of water only. **Unsuitable:** Dry chemical extinguishers, foam, carbon dioxide – these may not extinguish oxidizer-fed fires and can produce a violent reaction.
Specific hazards arising from the chemical	Strong oxidizer – contact with combustible/organic materials, reducing agents, acids or ammonia compounds can cause fire, explosion, and/or release of toxic chlorine gas. Decomposes on heating, releasing oxygen (intensifies fire) and chlorine-containing fumes.
Special protective actions for fire-fighters	Evacuate the area. Wear self-contained breathing apparatus and full acid/chemical-resistant protective clothing. Use large quantities of water to cool containers and dilute/flush the material; do not use limited water as this can concentrate and worsen the reaction. Approach from upwind.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Evacuate the area. Avoid contact and inhalation of dust/fumes. Use PPE per Section 8.

For emergency responders

Wear full protective equipment and self-contained breathing apparatus. Keep unprotected persons away.

Environmental precautions	Prevent entry into drains, watercourses and soil – very toxic to aquatic life. Notify relevant authorities in case of significant release.
Methods and materials for containment and cleaning up	Do not use combustible materials (e.g. sawdust, cloth) to absorb spills. Sweep up carefully using clean, dry, non-combustible tools and place in a clean, dry, appropriately labelled container. Do not reseal contaminated material in the original container. Keep away from all incompatible materials during cleanup.
Reference to other sections	See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Keep away from all combustible/organic materials, reducing agents, acids and ammonia compounds. Use clean, dry equipment and scoops dedicated to this product only – never return unused material to the original container.

B. Technical recommendations for the prevention of fires and explosions

Store away from heat and ignition sources. Keep containers tightly closed and away from moisture. Segregate from all incompatible materials in storage and transport.

C. Technical recommendations on general occupational hygiene

Do not eat, drink or smoke while handling. Wash hands and exposed skin thoroughly after handling.

D. Technical recommendations to prevent environmental risks

Prevent product from entering drains or watercourses. Provide secondary containment for bulk storage.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	5°C
Maximum Temp.	30°C (avoid heat sources; product decomposes faster at higher temperature)
Maximum time (unopened, original packaging)	6–12 Months (available chlorine content declines gradually with storage)

B. General conditions for storage

Store in a cool, dry, well-ventilated area away from direct sunlight, moisture, heat sources and all incompatible materials (Section 10.5). Store in original, tightly closed containers, off the ground, away from combustibles.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948:

Identification	Occupational Exposure Limit Type	Value
Chlorine (evolved gas) CAS: 7782-50-5	Time Weighted average concentration (8 hrs)	1 ppm / 3 mg/m³
	Short-term exposure limit (15 min)	3 ppm / 9 mg/m³

Appropriate engineering controls

Use local exhaust ventilation in areas where dust or fumes may be generated. Consult manufacturer's leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection

Dust/particulate respirator for routine handling; full-face respirator with acid gas/chlorine cartridge or SCBA in case of significant fumes/spill.

C. Specific protection for the hands

Chemical-resistant gloves (PVC, neoprene or nitrile).

D. Eye and face protection

Chemical splash goggles and face shield.

E. Bodily protection

Acid/chemical-resistant apron or coveralls; closed protective footwear.

F. Additional emergency measures

Emergency shower and eyewash station should be available near handling/dosing areas.

Environmental exposure controls

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid (granules/tablets/powder)
Appearance	Formulated calcium hypochlorite / hydrated lime blend (stabilized bleaching powder), free-flowing powder
Color	White to grayish-white
Odor	Strong chlorine odor
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	Non-applicable (decomposes before boiling)
Vapour pressure at 20°C / 50°C	Not relevant *
Evaporation rate at 20°C	Not relevant *
Product Description	
Bulk density	Approx. 0.8–1.0 g/cm³
Dynamic / Kinematic viscosity	Non-applicable (solid)
Concentration (available chlorine)	approx. 30–35% w/w
pH (1% aqueous solution)	Approx. 10.5–11.5 (alkaline)
Vapour density at 20°C	Not relevant *
Partition coefficient n-octanol/water 20°C	Not relevant (inorganic salt)
Solubility in water at 20°C	Soluble (partial residue with formulated grades containing lime carrier)
Decomposition temperature	Decomposes gradually at ambient; rapidly above ~175°C (self-accelerating decomposition risk)
Melting point/freezing point	Non-applicable (decomposes rather than melts)
Flammability	
Flash Point	Non-applicable
Flammability (solid, gas)	Non-combustible itself but a strong oxidizer – intensifies combustion of other materials
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Available on request (granular/tablet grade dependent)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

Other information

Explosive properties	Not explosive by itself; may react violently/explosively with incompatible materials (Section 10.5)
Oxidising properties	Strong oxidizer – Ox. Sol. 2
Corrosive to metals	Corrosive to most common metals in the presence of moisture
Heat of combustion	Not relevant *
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

Strong oxidizer. Reacts violently with acids (releases chlorine gas), ammonia and organic/combustible materials (fire/explosion risk). Reacts with moisture over time, gradually losing available chlorine content.

Chemical stability

Stable under recommended storage conditions (cool, dry, segregated). Decomposition accelerates with heat, moisture and contamination; self-accelerating decomposition can occur if contaminated with incompatible materials.

Possibility of hazardous reactions

Contamination with organic matter, acids, reducing agents or ammonia compounds can cause a rapid, self-sustaining exothermic decomposition, releasing chlorine gas and oxygen, and may result in fire or explosion.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Avoid friction/impact with contaminants present	Not applicable	Danger of accelerated decomposition/fire above ~175°C	Avoid prolonged direct exposure	Avoid moisture ingress (accelerates decomposition)

Incompatible materials

Acids	Ammonia / Amines	Organic / Combustible Materials	Reducing Agents / Metals (powder)
Violent reaction, releases chlorine gas	Violent reaction, may form explosive chloramines	Fire/explosion risk	Violent reaction

Hazardous decomposition products

Chlorine gas, oxygen, and (if contaminated with nitrogen-containing materials) chloramines.

11. TOXICOLOGICAL INFORMATION

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. Causes severe irritation/burns to the mouth, throat, oesophagus and stomach; may cause nausea, vomiting and abdominal pain.

B. Inhalation (acute effect)
May cause respiratory irritation. Dust/fumes (especially if the product contacts moisture, acid or is heated) may release chlorine gas, which is toxic if inhaled.

C. Contact with skin and eyes (acute effect)
Causes severe skin burns and serious eye damage on direct contact, particularly with moisture present.

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

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 (STOT SE 3).

G. Specific target organ toxicity (STOT) – repeated exposure
Classification criteria are not met based on available data.

H. Aspiration hazard
Classification criteria are not met based on available data.

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Calcium hypochlorite CAS: 7778-54-3	LD50 oral: 850 mg/kg	Rat
	LD50 dermal: >2000 mg/kg	Rabbit

12. ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

Toxicity

Acute Toxicity	Species	Genus
LC50: 0.16–0.3 mg/L (96h, as available chlorine)	Non-applicable	Fish
EC50: 0.03–0.16 mg/L (48h, as available chlorine)	Non-applicable	Crustacean (Daphnia)

Persistence and degradability

Not persistent – rapidly decomposes/reacts in the environment (hydrolyses, reacts with organic matter, and releases chlorine, which further degrades).

Bioaccumulative potential

Not expected to bioaccumulate.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	Soluble/mobile	Reacts and decomposes

Results of PBT and vPvB assessment

Non-applicable (inorganic substance)

Other adverse effects	Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Do not mix with other chemicals. Small quantities may be diluted with large amounts of water and, after complete reaction/dechlorination, disposed of per local effluent regulations; larger quantities should be handled by a licensed hazardous waste contractor. Do not reseal contaminated material in the original container.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

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

14.1 UN number	UN2880
14.2 UN proper shipping name	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Environmental hazard	Yes
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	UN2880
14.2 UN proper shipping name	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	EmS Codes: F-A, S-Q
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	UN2880
14.2 UN proper shipping name	CALCIUM HYPOCHLORITE, HYDRATED, with not less than 5.5% but not more than 16% water
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Forbidden on passenger aircraft in larger quantities – consult current IATA regulations for packing instruction limits
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

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 (India)
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

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.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

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

Staff handling this product must receive specific training on the hazards of strong oxidizers, incompatible material segregation, and emergency response to accidental chlorine gas release, in addition to general SDS/label comprehension training.

Principal bibliographical sources

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification and physicochemical reference data for calcium hypochlorite (CAS 7778-54-3).

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 | EmS: Emergency Schedule

Disclaimer: 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.

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