

Material Safety Data Sheet (MSDS / SDS)

Calcined Bauxite - All Origins (Chinese Premium Grade and Indian Value Grade)

SECTION 1: Identification

Product Name	Calcined Bauxite, Natural Mineral (Primarily Aluminium Oxide)
Synonyms	Calcined Bauxite, Refractory Bauxite, High-Alumina Bauxite
CAS No.	Natural mineral - primarily Al ₂ O ₃ (1344-28-1), with iron oxide/silica/titania impurities
Recommended Use	High-alumina refractory raw material; abrasive grit; road surfacing aggregate; oil & gas proppant manufacturing
Manufacturer / Supplier	Ochnology Solution Pvt. Ltd., B-153, Sector-4 Defence Colony, Dehradun, Uttarakhand, India - 248001
Telephone	+91 9286823642/43
Email	projects@ochnology.com, bd@ochnology.com

SECTION 2: Hazard(s) Identification

GHS Classification: Not classified as hazardous under GHS for acute health or environmental hazards based on available data. May contain crystalline silica; nuisance dust; mechanical injury risk from hard, angular particles.

Signal Word: None (not classified) - general dust-handling precautions apply; crystalline silica caution applies (see below)

Hazard Statements:

- Not classified as a hazardous substance or mixture under GHS/CLP for acute health or environmental hazards based on available data
- May contain crystalline silica (SiO₂ content typically 3-12%, origin/grade dependent) - prolonged inhalation of respirable crystalline silica dust is associated with silicosis and is classified by IARC as Group 1 (carcinogenic to humans)
- Hard, dense mineral particles may cause mechanical irritation or injury to eyes and skin on direct contact, particularly in abrasive-grit applications

- May cause mechanical irritation to the respiratory tract as a nuisance dust at high airborne concentrations

Precautionary Statements:

- P260 – Do not breathe dust
- P264 – Wash hands thoroughly after handling
- P271 – Use only outdoors or in a well-ventilated area
- P280 – Wear protective gloves/eye protection
- P284 – Wear respiratory protection where dust generation is significant (e.g. crushing, dry screening, abrasive blasting)

SECTION 3: Composition / Information on Ingredients

Component	CAS No.	Concentration (w/w)
Aluminium Oxide (Al ₂ O ₃ , as calcined bauxite)	1344-28-1	75 – 90% (origin/grade dependent, see TDS)
Iron Oxide (Fe ₂ O ₃), Silica (SiO ₂), Titania (TiO ₂) and other residual minerals (natural)	–	Balance (origin/grade dependent, see TDS)

SECTION 4: First-Aid Measures**Eye Contact**

Rinse with plenty of water for several minutes to remove dust/particles. Do not rub – hard particles can scratch the cornea. Seek medical attention if irritation or discomfort persists.

Skin Contact

Wash with soap and water. Generally non-irritating chemically; hard, angular particles may cause minor mechanical abrasion on vigorous contact – treat as a minor mechanical injury if this occurs.

Inhalation

Move to fresh air. If coughing or respiratory discomfort from dust persists, seek medical attention.

Ingestion

Rinse mouth with water. Not expected to be harmful in small amounts; seek medical attention if a large quantity is ingested or discomfort occurs.

SECTION 5: Fire-Fighting Measures

- Non-flammable, non-combustible natural mineral; does not itself burn or support combustion
- No specific fire or explosion hazard associated with this product
- Suitable extinguishing media: use media appropriate to the surrounding fire

SECTION 6: Accidental Release Measures

- Avoid generating dust during clean-up; use wet suppression or vacuum with HEPA filtration where practical
- Sweep or vacuum into suitable containers for reuse or disposal
- Spilled material can create a slip hazard on hard floors – clean promptly
- Wear appropriate PPE (dust mask, goggles) during clean-up of large spills

SECTION 7: Handling and Storage

- Avoid generating and inhaling dust; use wet suppression or local exhaust ventilation at dust-generating points (crushing, screening, transfer, blasting)
- Where this product is dry-processed, crushed, ground, or used as abrasive blast media, follow applicable respirable crystalline silica exposure regulations (e.g. OSHA Respirable Crystalline Silica Standard) given the SiO₂ content of this product
- Wear eye protection when handling – hard, angular particles pose a mechanical injury risk, particularly in abrasive-grit applications
- Store in a dry, covered area away from moisture and contamination

SECTION 8: Exposure Controls / Personal Protection

Occupational Exposure Limits

OSHA PEL / ACGIH TLV for aluminium oxide (as PNOR/PSLT particulate): general reference 10–15 mg/m³ total dust, 8-hr TWA. If respirable crystalline silica is confirmed present, the applicable silica PEL (e.g. OSHA 50 µg/m³ respirable, 8-hr TWA) takes precedence – confirm via batch-specific silica testing for dry-processing/abrasive-blasting use

Engineering Controls	Wet suppression and/or local exhaust ventilation at all dust-generating process steps, particularly crushing, screening and abrasive blasting
Eye/Face Protection	Safety glasses or goggles required – hard abrasive particles pose a mechanical eye-injury risk in addition to standard dust exposure
Hand Protection	General-purpose work gloves sufficient for routine handling; abrasive-resistant gloves recommended for direct handling of coarse grit
Respiratory Protection	Dust mask (N95 or equivalent) recommended in dusty conditions; higher-grade respiratory protection (e.g. P100) recommended for dry crushing/grinding/blasting operations given the combined crystalline silica and mechanical dust considerations

SECTION 9: Physical and Chemical Properties

Property	Unit	Value
Appearance	–	Tan/brown to reddish-brown dense granules or lumps (colour and density vary by origin/grade, see TDS)
Odour	–	Odourless
Bulk Density	g/cm ³	2.8 – 3.4 (origin/grade dependent)
Solubility in Water	–	Insoluble
Flash Point	–	Not applicable (non-combustible inorganic solid)

SECTION 10: Stability and Reactivity

- Stable under normal conditions of storage, handling and use
- Chemically inert under ambient conditions; does not react under normal storage/handling

- Incompatible materials: strong acids and strong bases (slow reaction over prolonged contact)

SECTION 11: Toxicological Information

- Low acute oral and dermal toxicity based on published data for calcined bauxite/aluminium oxide minerals
- May contain crystalline silica (see Section 2); relevant primarily where the buyer dry-processes, crushes, grinds, or uses this material as abrasive blast media, generating significant respirable dust
- Hard, angular particles (a defining characteristic of this product, particularly abrasive-grit grades) pose a mechanical injury risk to eyes and skin on direct contact, distinct from chemical irritation
- Not classified as carcinogenic (for the calcined bauxite/alumina component itself), mutagenic, or toxic to reproduction based on available information

SECTION 12: Ecological Information

- Not classified as hazardous to aquatic organisms under GHS criteria based on available data; chemically inert and insoluble
- May increase turbidity/sedimentation if released to waterways in bulk
- No significant bioaccumulation potential

SECTION 13: Disposal Considerations

- Dispose of product in accordance with local, state and national regulations
- Not classified as hazardous waste under standard criteria
- Spent abrasive-grit material may contain residue from the substrate being processed – assess and dispose of accordingly if contaminated

SECTION 14: Transport Information

UN Number

Not applicable – not classified as Dangerous Goods

Proper Shipping Name	Not regulated for transport (IMDG / ADR / IATA / RID)
Transport Hazard Class	Not classified
Packing Group	Not applicable
Environmental Hazards	None identified under standard transport classification criteria

SECTION 15: Regulatory Information

- Aluminium oxide/calcined bauxite is widely listed on major chemical inventories (TSCA, REACH, ECL, etc.) as an existing/registered substance
- Given the variable SiO₂ content between origins/grades, buyers using this product in dry-processing or abrasive-blasting applications subject to crystalline silica exposure regulation should confirm actual crystalline silica content via the specific batch COA
- This SDS covers both origins/grades referenced in the accompanying TDS documents (Chinese Premium Grade and Indian Value Grade) – the hazard profile does not materially change between these two origins, only the Al₂O₃/Fe₂O₃/SiO₂ ratios and corresponding trace impurity levels differ

SECTION 16: Other Information

Revision Date: 20 July 2026

This SDS has been compiled based on general industry data and knowledge for Calcined Bauxite products of this type as commercially supplied, covering Chinese Premium Grade and Indian Value Grade origins. It is intended as a general handling and safety guide and does not replace a batch-specific SDS from the manufacturing source, which should be obtained and reviewed for each shipment where regulatory submission is required, particularly regarding confirmed crystalline silica content for abrasive-blasting or dry-processing use.

Disclaimer: This Safety Data Sheet is prepared based on our current knowledge and information believed to be reliable for the product as typically supplied, and is intended as a general guide only. It does not constitute a warranty of any specific properties. Ochnology Solution Pvt. Ltd. reserves the right to modify this document without prior notice. Buyers/users are responsible for determining the suitability of this information for their own use, handling, and disposal practices, and for compliance with applicable laws and regulations in their jurisdiction.