

Material Safety Data Sheet (MSDS / SDS)

White Fused Alumina (WFA) - Refractory & Abrasive Grades

SECTION 1: Identification

Product Name	White Fused Alumina (WFA), Aluminium Oxide
Synonyms	WFA, White Aluminum Oxide, White Fused Alumina, Corundum (Synthetic), Al ₂ O ₃
CAS No.	1344-28-1
Recommended Use	Raw material for refractory castables/kiln furniture, precision casting, bonded/coated abrasives and blast media
Manufacturer / Supplier	Ochnology Solution Pvt. Ltd., B-153, Sector-4 Defence Colony, Dehradun, Uttarakhand, India - 248001
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SECTION 2: Hazard(s) Identification

GHS Classification: Not classified as hazardous under GHS for health or environmental hazards based on available data. Hard, angular particles may cause mechanical injury on direct eye/skin contact; nuisance dust at high airborne concentrations.

Signal Word: None (not classified) - general dust and mechanical-contact precautions apply

Hazard Statements:

- Not classified as a hazardous substance or mixture under GHS/CLP for health or environmental hazards based on available data
- Hard, angular abrasive particles (Mohs hardness ≈9) may cause mechanical injury (e.g. corneal abrasion) on direct eye contact - this is a physical/mechanical hazard, not a chemical one
- May cause mechanical irritation to eyes and respiratory tract as a nuisance dust at high airborne concentrations

Precautionary Statements:

- P264 – Wash hands thoroughly after handling
- P271 – Use only outdoors or in a well-ventilated area
- P280 – Wear protective gloves/eye protection
- P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do; continue rinsing; seek medical attention given the abrasive nature of the particles

SECTION 3: Composition / Information on Ingredients

Component	CAS No.	Concentration (w/w)
Aluminium Oxide (Al ₂ O ₃ , fused)	1344-28-1	99.0 – 99.2% (grade dependent, see TDS)
Na ₂ O / SiO ₂ / CaO (residual impurities)	–	< 1.0% (combined, grade dependent)

SECTION 4: First-Aid Measures

Eye Contact	Rinse immediately with plenty of water for several minutes, holding eyelids open. Do NOT rub the eye – hard abrasive particles can scratch the cornea. Remove contact lenses if present and easy to do. Seek medical attention promptly given the abrasive nature of this material.
Skin Contact	Wash with soap and water. Generally non-irritating chemically, though abrasive particles may cause minor mechanical abrasion on vigorous rubbing; 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 chemically harmful in small amounts; seek medical attention if large quantities are ingested or discomfort occurs.

SECTION 5: Fire-Fighting Measures

- Non-flammable, non-combustible inorganic 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
- No special fire-fighting precautions required specific to this material

SECTION 6: Accidental Release Measures

- Avoid generating dust during clean-up; use wet sweeping or vacuum with HEPA filtration where practical
- Sweep or vacuum into suitable containers for reuse or disposal
- Spilled granules/powder 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 local exhaust ventilation at dust-generating points (bag dumping, milling, blast-media recovery)
- Avoid direct eye contact – hard, angular particles pose a mechanical injury risk; wear eye protection when handling, especially in abrasive/blasting applications
- Store in a dry, covered area away from moisture and contamination
- Keep bags/containers closed when not in use
- No specific chemical incompatibilities – chemically inert under normal storage and handling conditions

SECTION 8: Exposure Controls / Personal Protection

Occupational Exposure Limits	OSHA PEL: 15 mg/m ³ (total dust, 8-hr TWA); ACGIH TLV: 10 mg/m ³ (inhalable fraction, 8-hr TWA) for aluminium oxide as a Particulate Not Otherwise Regulated (PNOR) / Poorly Soluble Low Toxicity (PSLT) particulate
Engineering Controls	Local exhaust ventilation at dust-generating process steps, particularly in blast-media recovery/recycling systems
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 recommended; abrasive-resistant gloves recommended for direct handling of coarse grit
Respiratory Protection	Dust mask (N95 or equivalent) recommended where airborne dust levels are elevated, e.g. bag dumping/blasting operations

SECTION 9: Physical and Chemical Properties

Property	Unit	Value
Appearance	–	White crystalline granules or powder
Odour	–	Odourless
Melting Point	°C	≈ 2,050
True Density	g/cm ³	3.90 – 3.95
Hardness (Mohs)	–	≈ 9
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; does not react under normal ambient conditions
- Hazardous decomposition products: none under normal conditions
- No known significant incompatibilities under normal use

SECTION 11: Toxicological Information

- Aluminium oxide is generally regarded as a Poorly Soluble Low Toxicity (PSLT) particulate; very low acute oral and dermal toxicity
- Not classified as carcinogenic, mutagenic, or toxic to reproduction based on available information – this is a materially different profile from crystalline-silica-containing abrasives
- This product's low SiO₂ content (typically $\leq 0.1\%$ per the product specification) means it is not expected to pose a significant respirable crystalline silica exposure hazard, unlike natural silica sand abrasives; buyers in silica-regulated industries (e.g. blast media) should nonetheless confirm actual crystalline silica content via the batch COA/mill SDS for their specific regulatory submission
- Prolonged inhalation of high concentrations of respirable dust (of any poorly-soluble low-toxicity particulate) may cause mechanical lung irritation – standard dust exposure controls are recommended as good practice

SECTION 12: Ecological Information

- Not classified as hazardous to aquatic organisms; aluminium oxide is chemically inert and insoluble in water
- No significant bioaccumulation potential due to insolubility and chemical inertness
- Avoid unnecessary large-scale release of bulk material to waterways as general environmental good practice

SECTION 13: Disposal Considerations

- Dispose of product and packaging in accordance with local, state and national regulations
- Not classified as hazardous waste under standard criteria; confirm local requirements before disposal
- Spent abrasive/blast media may contain residue from the substrate being processed (e.g. paint, metal) – 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 – inert, insoluble solid

SECTION 15: Regulatory Information

- Aluminium oxide is widely listed on major chemical inventories (TSCA, REACH, ECL, etc.) as an existing/registered substance
- Not subject to crystalline silica hazard communication requirements (e.g. OSHA Respirable Crystalline Silica Standard) at the low SiO₂ levels specified for this product – buyers should confirm against their specific batch COA if using in a jurisdiction with strict silica exposure regulation
- Buyers/importers should confirm labelling and inventory requirements applicable to their specific jurisdiction and end-use

SECTION 16: Other Information

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This SDS has been compiled based on general industry data and knowledge for White Fused Alumina (WFA) products of this type as commercially supplied, across the refractory and abrasive grades listed on the accompanying TDS. It is intended as a general handling and safety guide and does not replace a batch-specific SDS from the manufacturing mill, which should be obtained and reviewed for each shipment where regulatory submission is required.

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