

PRCB-39 — Fly Ash

1. Identification of the substance and the supplier

Product	PRO-ROAD® PRCB-39 — coal fly ash, Class F or Class C, powder.
Recommended use	Soil and base stabilisation; supplementary cementitious addition in concrete and mortar.
Restrictions on use	Do not use as fill material without prior leaching assessment where the site is hydrogeologically sensitive.
Supplied by	PRO-ROAD® — Soluciones en Suministros, Ingeniería y Construcción S.A.S. (Colombia) · Escher Infrastructure LLC (USA) · Penrose Solutions LLC. Cra. 14B No. 106-60 Of. 403, Bogotá D.C., Colombia. www.proroadglobal.com · info@proroadglobal.com
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2. Hazards identification

Signal word	DANGER
GHS classification	Skin irritation category 2 · Eye irritation category 2A · Specific target organ toxicity, repeated exposure, category 1 (lungs, from respirable crystalline silica) · Carcinogenicity category 1A (from the respirable crystalline silica content).
Hazard statements (H)	H315 — Causes skin irritation. · H319 — Causes serious eye irritation. · H335 — May cause respiratory irritation. · H350 — May cause cancer. · H372 — Causes damage to organs through prolonged or repeated exposure.
Precautionary statements (P)	P201 — Obtain special instructions before use. · P260 — Do not breathe dust, fume, gas, mist, vapours or spray. · P264 — Wash thoroughly after handling. · P280 — Wear protective gloves, clothing, eye and face protection. · P302+P352 — IF ON SKIN: wash with plenty of soap and water. · P305+P351+P338 — IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. · P308+P313 — IF exposed or concerned: get medical advice/attention. · P501 — Dispose of contents and container in accordance with applicable local regulations.
Pictograms	GHS08 (health hazard) · GHS07 (exclamation mark)
NFPA 704 — Health / Flammability / Reactivity	Health 2 · Flammability 0 · Reactivity 0

The determining hazard is chronic inhalation of respirable dust containing crystalline silica, classified by IARC in Group 1 as carcinogenic to humans and a recognised cause of silicosis. The product is additionally moderately alkaline on contact with moisture, particularly Class C ash owing to its calcium oxide content, which causes skin and eye irritation. Fly ash may contain traces of heavy metals from the source coal. It presents no fire or explosion risk.

3. Composition / information on ingredients

Component	CAS No.	Concentration
Coal fly ash	68131-74-8	> 95 %
Respirable crystalline silica (quartz)	14808-60-7	1 – 10 %
Calcium oxide (predominant in Class C)	1305-78-8	< 18 % (Class F) · > 18 % (Class C)

The percentages indicated are representative ranges of the formulation. Components not listed are either not classified as hazardous or are below the concentration limits that require declaration under GHS. The precise chemical identity of the additives is proprietary information; it is disclosed to health authorities and to medical personnel who require it to respond to an emergency.

4. First-aid measures

Inhalation	Move into fresh air. Rinse the mouth and nose with water. If irritation or breathing difficulty persists, consult a physician.
Skin contact	Remove contaminated clothing and wash the skin with plenty of soap and water for at least 15 minutes. Pay particular attention to skin folds and to the inside of footwear, where damp dust may remain and cause progressive alkaline burn.
Eye contact	Do not rub the eyes: the particles may cause corneal abrasion. Rinse with plenty of clean water for at least 20 minutes, holding the eyelids apart. Remove contact lenses. Seek ophthalmic assessment.
Ingestion	Rinse the mouth with water. Do not induce vomiting. If a significant quantity has been swallowed, seek medical attention.

Notes for medical personnel

In ocular exposure, rule out foreign body and corneal abrasion by fluorescein staining, and check conjunctival pH. The relevant chronic exposure is silicosis: in workers with prolonged exposure, consider medical surveillance with chest radiography and spirometry in accordance with the applicable epidemiological surveillance programme.

5. Fire-fighting measures

Extinguishing media	The product is not combustible. Use the extinguishing agent appropriate to the surrounding material.
Specific hazards	Presents no fire or explosion risk. Avoid the use of pressurised water on the material, as it generates dust dispersion and, in lime- or cement-bearing products, an exothermic reaction with heat release.
Protective equipment for fire-fighters	Respiratory protection against particulates and sealed eye protection during fire-fighting and debris removal.

6. Accidental release measures

Avoid dust generation: do not sweep dry or use compressed air. Collect mechanically with a shovel or with an industrial vacuum fitted with a HEPA filter, and transfer to closed, labelled containers. For large spills, lightly wet the surface before collection. Prevent the material from entering drains, sewers and water bodies, where it may raise the pH and block conduits. After collection, wash the surface with plenty of water.

7. Handling and storage

Handle in closed systems wherever possible. Avoid dust generation and dispersion. Do not use compressed air to clean clothing or surfaces. Remove and launder contaminated work clothing at the end of the shift; do not take it home. Wash hands and face before eating, drinking or smoking. Eating, drinking and smoking are prohibited in handling areas.

Store in closed silos or sealed packaging, in a dry, covered, ventilated place. Contact with moisture causes hydration, hardening and loss of reactivity. Before any entry into a silo, apply the confined-space procedure: there is a risk of engulfment by material avalanche and of oxygen deficiency. Typical shelf life of 6 months in sealed packaging.

8. Exposure controls / personal protection

Occupational exposure limits	Respirable crystalline silica: NIOSH REL 0.05 mg/m ³ (10 h TWA); OSHA PEL 0.05 mg/m ³ (8 h TWA, action level 0.025 mg/m ³ , 29 CFR 1926.1153); ACGIH TLV-TWA 0.025 mg/m ³ . IARC classifies respirable crystalline silica from occupational sources in Group 1 (carcinogenic to humans). This is the product's critical exposure parameter and requires a hygiene monitoring programme.
Engineering controls	General ventilation and local exhaust at dust generation points (bag discharge, silo feeding, mixing). Use closed transfer systems wherever possible. Wet the material to suppress dust where the process allows. Accessible safety showers and eyewash stations in the work area. Hygiene monitoring programme for respirable dust and crystalline silica.

Personal protective equipment	Sealed safety goggles (dust-tight, unvented) or face shield. Impermeable gloves. Long-sleeved work clothing covering arms and legs; remove and launder contaminated clothing before reuse. Impermeable safety-toe boots. Respiratory protection against particulates rated at least N95 / FFP2, and FFP3 or powered where monitoring indicates high concentrations or significant respirable crystalline silica content.
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9. Physical and chemical properties

Property	Value
Physical state and appearance	Fine powder
Colour and odour	Light grey to dark grey; odourless
pH (aqueous suspension)	8 – 12 (Class F) · 11 – 13 (Class C)
Specific gravity	2.1 – 2.7
Bulk density	0.9 – 1.3 g/cm ³
Solubility in water	Practically insoluble
Flammability	Non-combustible

10. Stability and reactivity

Stable under normal storage conditions. Conditions to avoid: contact with moisture and water, which causes setting and heat release, particularly in Class C ash. Incompatible materials: strong acids (exothermic reaction), aluminium and its alloys in a damp alkaline medium (release of flammable hydrogen), hydrogen fluoride. Hazardous decomposition products: none under normal conditions.

11. Toxicological information

Acute toxicity: low by all routes. The critical effect is chronic and by inhalation. Silicosis: repeated inhalation of respirable crystalline silica produces irreversible, progressive pulmonary fibrosis that may appear years after exposure ceases. Carcinogenicity: IARC classifies inhaled crystalline silica of occupational origin in Group 1, carcinogenic to humans (lung cancer). Crystalline silica exposure is also associated with increased risk of tuberculosis, chronic obstructive pulmonary disease, kidney disease and autoimmune disease. Skin and eye irritation: from the abrasive action of the particles and from alkalinity on contact with moisture. Heavy metals: fly ash may contain traces of arsenic, cadmium, chromium, lead, mercury, nickel and selenium at concentrations that depend on the source coal; request the batch analysis if the intended use requires it.

12. Ecological information

Not classified as hazardous to the aquatic environment under GHS. Discharge of significant quantities into a water body raises the pH, increases turbidity and may bury the benthic substrate. Leaching of trace metals depends on the source coal and on the pH conditions of the medium; in fill or stabilisation applications at hydrogeologically sensitive sites a leaching test must be performed (TCLP, EPA Method 1311, or the test required by the competent environmental authority). Not bioaccumulative. Once set in the cementitious matrix, the material is essentially inert.

13. Disposal considerations

Dispose of residual product and its packaging in accordance with applicable local, regional and national regulations, through an authorised waste manager. In Colombia, Decree 4741 of 2005 and Resolution 1362 of 2007 on hazardous waste management apply; in the United States, RCRA (40 CFR parts 260-273); in the European Union, Directive 2008/98/EC. Do not discharge into the sewer system, onto soil or into water bodies. Do not reuse empty containers without prior decontamination.

14. Transport information

Property	Value
Road (ADR / DOT), sea (IMDG) and air (IATA-DGR)	Not regulated as a dangerous good.
Marine pollutant	Not classified as a marine pollutant under Annex III of MARPOL 73/78.
HS code	2621.90

Bulk transport in pneumatic tankers or in a ship's hold requires control of moisture and fugitive dust, and application of the IMSBC Code in bulk sea transport.

15. Regulatory information

Colombia: Decree 1496 of 2018 (adoption of GHS) and Resolution 0773 of 2021 of the Ministry of Labour. United States: OSHA Hazard Communication Standard, 29 CFR 1910.1200; for sales in California, the Proposition 65 warning applies. European Union: Regulation (EC) 1272/2008 (CLP) and Annex II of Regulation (EC) 1907/2006 (REACH). Brazil: ABNT NBR 14725. International transport: UN Recommendations (Orange Book), IMDG Code, ICAO Technical Instructions / IATA-DGR.

16. Other information

This sheet is issued as revision 01 dated August 2026 and supersedes any earlier version. It will be reviewed when the product formulation, the applicable GHS classification or the reference regulations change, and in any case every three years. Training of exposed personnel on the content of this sheet is the employer's responsibility.

ACGIH: American Conference of Governmental Industrial Hygienists · CAS: Chemical Abstracts Service · CLP: Classification, Labelling and Packaging · IARC: International Agency for Research on Cancer · IMDG: International Maritime Dangerous Goods Code · LC50: median lethal concentration · LD50: median lethal dose · NIOSH: National Institute for Occupational Safety and Health · REL: recommended exposure limit · GHS: Globally Harmonized System · TLV: threshold limit value · TWA: time-weighted average · STEL: short-term exposure limit · PEL: permissible exposure limit.

DOCUMENT FOR INTERNAL REVIEW. Composition data, CAS numbers and concentrations must be confirmed against the actual formulation and the raw-material suppliers' safety data sheets before this sheet is distributed to customers or authorities. Items marked "to be confirmed" require validation by PRO-ROAD®'s HSE officer.

This sheet has been prepared in accordance with the Globally Harmonized System (GHS) of classification and labelling of chemicals and with the 16-section format of ANSI Z400.1 / ISO 11014. In Colombia, Decree 1496 of 2018 and Resolution 0773 of 2021 of the Ministry of Labour apply; in the United States, OSHA 29 CFR 1910.1200; in the European Union, Regulation (EC) 1272/2008 (CLP) and Annex II of Regulation (EC) 1907/2006 (REACH). The information is offered in good faith and does not constitute a warranty. The employer is responsible for workplace risk assessment and for training its personnel.

