SAFETY DATA SHEET

Dakota Gold Biochar

Soil Amendment / Animal Feed Additive Grade

Draft v0.1 | October 21, 2026 | Not approved for external distribution

SECTION 1 — Identification

Product identifier	**Dakota Gold Biochar — Soil Amendment / Animal Feed Additive Grade**
Synonyms	Wood-derived biochar; pyrolyzed wood residue; biochar
Recommended use	Biochar for use as a soil amendment or animal feed additive, subject to applicable end-use requirements and regulatory authorization.
Uses advised against	This material is not intended to be burned, combusted, or used as a fuel or reductant. Contact Dakota Biochar for questions regarding other uses.
Supplier	Dakota Biochar LLC
Address	1118 W Main St., Rapid City, SD 57701, USA
Business telephone	(612) 269-4161 — Brad Walton
Website	www.dakota-biochar.com
Emergency contact (interim)	Dakota Biochar (612) 269-4161; for U.S. poisoning/medical exposure call Poison Help 1-800-222-1222. Third-party 24-hour emergency-response provider pending registration (CHEMTREC or equivalent).

SECTION 2 — Hazard(s) identification

OSHA hazard communication: Combustible dust hazard is communicated conservatively for carbonaceous fines; formal product-specific explosibility testing not performed.

Signal word: WARNING

Hazard statement: May form combustible dust concentrations in air.

Pictograms: None assigned for the combustible dust hazard.

Other hazards: Carbonaceous solid is combustible; fine dust may irritate eyes, skin, and respiratory tract mechanically. Self-heating and dust explosion characteristics have not been determined. A restriction on intentional combustion for carbon-storage end use is not a claim that the product is noncombustible.

Precautions: Avoid dust clouds and accumulation. Keep away from ignition sources and strong oxidizers. Use local exhaust. Never package material while hot or smoldering.

SECTION 3 — Composition/information on ingredients

Product	**Wood-derived biochar / charcoal-like UVCB carbonaceous solid derived from wood residues; inherently variable moisture and mineral ash.**
CAS reference	Charcoal CAS 16291-96-6 is sometimes used descriptively; confirm exact product substance identity for regulatory filings.
Nominal material characteristics	Historical production analysis indicates moisture varying markedly by lot (roughly 1–56% as received);

	dry solids typically consist of residual volatile matter, fixed carbon, and naturally occurring mineral ash. No release specification has yet been validated for this particular grade.
Minerals / contaminants	Available Lot 3 and Lot 4 results identify calcium-, potassium-, iron-, magnesium-, and phosphorus-associated ash. Crystalline silica and full feed-additive contaminant suitability have not been established.

SECTION 4 — First-aid measures

Inhalation	**Move to fresh air. Obtain medical advice if symptoms or breathing difficulty persist.**
Skin	Wash exposed skin with soap and water; remove dusty clothing.
Eyes	Rinse carefully with water for at least 15 minutes; remove contact lenses if easy. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Contact a clinician or Poison Help if symptoms occur or significant ingestion takes place.
Likely effects	Dust may cause mechanical eye, skin, nose, or throat irritation. Product-specific acute toxicity data are not available.

SECTION 5 — Fire-fighting measures

Extinguishing media: Water fog/spray, foam, dry chemical or CO_2 appropriate to surrounding conditions; avoid high-pressure jets that disperse dust or burning particles.

Specific hazards: Combustion or smoldering can produce CO, CO_2 and smoke. Airborne fine carbonaceous dust can present a flash-fire/explosion hazard. Product-specific Kst, MEC, MIE and self-heating data are unavailable.

Firefighter protection: Full protective equipment and positive-pressure SCBA. Check for hidden hot spots and re-ignition.

SECTION 6 — Accidental release measures

Eliminate ignition sources; ventilate and avoid raising dust. Recover by HEPA-filtered industrial vacuum or careful wet cleanup where appropriate. Avoid compressed-air blowdown and uncontrolled dry sweeping. Prevent migration to storm drains and surface water. Recover uncontaminated material only if quality and applicable intended-use requirements remain satisfied.

SECTION 7 — Handling and storage

Minimize dust during loading, transfer and application; use local exhaust and housekeeping controls. Ground and bond transfer equipment where static charge is a concern. Store away from heat, flames, sparks and strong oxidizers. Cool sufficiently before loading bulk trailers, containers or 1–2 cubic yard supersacks. Do not package or ship hot, smoking or suspected smoldering char. Self-heating properties and safe storage temperature thresholds have not been determined. Monitor suspect bulk material and follow site procedures for unusual heat, smoke or odor.

SECTION 8 — Exposure controls/personal protection

Airborne particulates: Follow OSHA limits applicable to particulates not otherwise regulated (15 mg/m³ total dust; 5 mg/m³ respirable fraction, 8-hour TWA), where applicable; assess any other specific regulated constituent if detected.

Engineering: Enclosed handling, local exhaust, appropriately designed dust collection and routine cleaning of settled dust.

Eye/skin: Safety glasses with side shields or goggles for dusty operations; work gloves and protective work clothing.

Respiratory: NIOSH-approved particulate protection when controls are inadequate, as selected through exposure assessment and an OSHA-compliant respirator program.

SECTION 9 — Physical and chemical properties

State / appearance	Black to dark-gray porous solid, granules and fines
Odor	Mild charred wood odor or little odor
pH	Alkaline; measured biochar lots approximately pH 9.5–12.6, method- and lot-dependent
Bulk density	Approximately 0.3–0.4 g/cm³ based on Lot 3/4 measurements; not a grade guarantee
Moisture	Historically variable; approximately 1–56 wt% as received in available laboratory results
Particle size	Variable granular solid containing fines; historical PSD includes <0.063 mm to >8 mm
Solubility	Essentially insoluble in water; porous material may retain water
Flammability	Combustible carbonaceous solid; category not determined
Autoignition / self-heating	Not determined
Dust explosion Kst / Pmax / MEC / MIE	Not determined
Flash point / vapor pressure / boiling point	Not applicable or not determined for a complex solid
Other parameters	No applicable information available or not determined

SECTION 10 — Stability and reactivity

Stability: Expected stable under recommended cool, dry storage and handling conditions; no product-specific stability testing.

Avoid: Heat, ignition sources, strong oxidizing agents, suspended dust clouds, and confinement of hot material.

Decomposition products: Carbon monoxide, carbon dioxide, smoke and other combustion products.

SECTION 11 — Toxicological information

Likely exposure routes: inhalation, eye and skin contact, incidental ingestion. Dust may cause transient mechanical irritation. Product-specific acute toxicity, sensitization, mutagenicity, carcinogenicity, reproductive toxicity, STOT and aspiration data are unavailable. No inference of safety for livestock feeding is made from this SDS; suitability for species, dose, contaminants and applicable food/feed law requires a separate assessment.

SECTION 12 — Ecological information

No product-specific ecotoxicity, bioaccumulation or mobility tests available. Biochar is a persistent carbonaceous material intended for durable storage in approved uses. Prevent uncontrolled releases of airborne fines or large quantities into waterways.

SECTION 13 — Disposal considerations

Where permitted and uncontaminated, recover for soil amendment or another authorized beneficial use that retains carbon. Avoid disposal pathways involving intentional combustion, thermal oxidation, fuel use or reductant use. Contaminated material and packaging require appropriate characterization and disposal under applicable rules.

SECTION 14 — Transport information

UN number, shipping name, class and packing group: not determined for this product. Shipment-specific U.S. DOT classification must be confirmed by the shipper, considering possible self-heating behavior, packaging volume and shipping conditions. Do not ship product that is hot, smoking or suspected of smoldering.

SECTION 15 — Regulatory information

SDS prepared in the U.S. OSHA HazCom 16-section format. Intended use as an animal feed additive stated here is not confirmation of approval, GRAS status, AAFCO acceptance or legal authorization for feeding; separate FDA/state animal-feed regulatory review and applicable product qualification are required before marketing or use as feed. Puro carbon-removal end-use restrictions are addressed as a commercial-use precaution, not an OSHA chemical-hazard classification.

SECTION 16 — Other information

Prepared for	**Dakota Biochar LLC**
Responsible party	Samuel Papendick, CTO
Preparation / revision	October 21, 2026 — Draft v0.1
Source basis	Prior Dakota Gold Construction Material Grade SDS discussion; South Dakota Mines and Ward lab data discussed in the Biochar project; Mangrove Puro audit comments; OSHA HCS guidance; FDA animal-food ingredient guidance.
Review needed	Confirm legal authorization and grade-specific acceptance criteria for animal feed additive uses, emergency service registration, transport classification and final responsible-party approval.

Disclaimer: This technical draft is not a product quality certificate, carbon-credit certificate or animal-feed approval. Actual suitability and safe handling depend on lot-specific composition and conditions of use. Do not distribute externally until approved.