

Material Safety Data Sheet (MSDS)

Hardwood Charcoal

Material: Hardwood Charcoal (Carbonised Wood) | Charcoal CAS No. 16291-96-6

1. Identification of the Substance and Supplier

Product Name	Hardwood Charcoal
Material Type	Carbonised hardwood (solid carbon fuel)
CAS No.	16291-96-6 (charcoal)
Synonyms	Hardwood charcoal, lump charcoal, wood charcoal, BBQ charcoal
Product Use	Fuel (BBQ / heating), metallurgical reductant, activated-carbon feedstock
Supplier	Ochnology Solution Pvt. Ltd., B-153, Sector-4 Defence Colony, Dehradun, Uttarakhand, India – 248001
Contact	projects@ochnology.com bd@ochnology.com

2. Hazards Identification

GHS Classification: Self-heating substance (may self-heat and catch fire in bulk, esp. when fresh or damp). Combustion produces toxic carbon monoxide. Fine dust is combustible. Signal word: **WARNING.**

- Self-heating: large quantities, especially fresh or damp charcoal, can self-heat and ignite
- Combustible solid; burning charcoal produces toxic carbon monoxide (CO)
- NEVER burn indoors or in confined / unventilated spaces – risk of fatal CO poisoning
- Fine charcoal dust is combustible and may form an explosive dust cloud
- Dust may cause mechanical irritation to eyes and respiratory tract

3. Composition / Information on Ingredients

Component	CAS No.	Concentration
Carbon (charcoal)	16291-96-6	65 – 85% fixed carbon
Volatile matter	Various	15 – 25%
Ash / mineral matter	Various	Max. 3%

4. First-Aid Measures

Inhalation (dust): Move to fresh air. Seek medical attention if irritation persists.

Inhalation (combustion fumes / CO): Move the person to fresh air IMMEDIATELY; CO poisoning is a medical emergency – seek urgent medical attention and give oxygen if trained.

Skin Contact: Wash with soap and water; remove dust.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation persists.

Ingestion: Rinse mouth with water. Charcoal is of low toxicity; seek medical attention if discomfort occurs.

5. Fire-Fighting Measures

- Use water spray / water flooding, foam, dry chemical, or CO₂
- Charcoal can smoulder internally for long periods – ensure full extinguishment
- Burning charcoal releases toxic carbon monoxide – do not enter confined spaces without SCBA
- Wear full protective equipment and self-contained breathing apparatus (SCBA)

6. Accidental Release Measures

- Not a hazard for solid lumps; collect and reuse
- For dust: avoid dust clouds; collect mechanically; keep from ignition sources
- Wear appropriate PPE (dust mask, goggles, gloves) during clean-up
- Check that recovered material is not smouldering before re-bagging

7. Handling and Storage

- Store in a dry, cool, well-ventilated area away from heat and ignition sources
- Allow freshly produced charcoal to cure / cool fully before bagging (self-heating risk)
- Avoid large unventilated stockpiles; monitor bulk storage for self-heating / hot spots
- Keep dry; avoid dust generation; use appropriate PPE

8. Exposure Controls / Personal Protection

- Charcoal / carbon (respirable dust): 2 mg/m³ (8-hr TWA) – typical reference value
- Carbon monoxide (combustion product): 25 – 50 ppm (8-hr TWA) – typical reference
- Provide ventilation; never burn charcoal in unventilated indoor spaces
- Respiratory protection for dust; CO monitoring where charcoal is burned

9. Physical and Chemical Properties

Property	Value
Appearance	Black hardwood charcoal lumps (10–100 mm)
Odour	Slight smoky / woody odour
pH	Not applicable
Ignition	Combustible solid; can smoulder
Solubility in Water	Insoluble
Bulk Density	Approx. 180 – 250 kg/m ³

10. Stability and Reactivity

- Stable when dry, cool, and away from ignition sources
- Self-heating hazard in bulk, especially when fresh or damp
- Combustible; reacts with strong oxidisers
- No hazardous polymerization occurs

11. Toxicological Information

- Charcoal itself is of low toxicity (related forms used medicinally as activated carbon)
- Principal acute hazard is carbon monoxide from combustion (can be fatal indoors)
- Dust may cause mechanical irritation to eyes and respiratory tract
- No significant chronic toxicity from the solid material under normal handling

12. Ecological Information

- Not classified as hazardous to the aquatic environment
- Charcoal is essentially inert carbon; low ecological concern
- No significant bioaccumulation
- Avoid release of large quantities of dust / fines into the environment

13. Disposal Considerations

- Ensure material is fully extinguished and cool before disposal
- Dispose of in accordance with local, state, and national regulations
- Inert carbon; may be disposed of as non-hazardous solid waste where permitted

14. Transport Information

UN Number	UN1361 (Carbon, animal or vegetable origin) – applies to self-heating grades; verify
Proper Shipping Name	CARBON, animal or vegetable origin (if classified self-heating)
Hazard Class	4.2 (self-heating) – where applicable; many stabilised charcoals are exempt
Packing Group	II / III where regulated
Remarks	Self-heating classification depends on the grade / test (UN N.4); confirm DG status before shipping

15. Regulatory Information

- May be classified as a self-heating substance (Class 4.2) for transport depending on grade
- Combustion product (carbon monoxide) subject to occupational exposure regulations
- Charcoal listed on major chemical inventories (CAS 16291-96-6)

16. Other Information

This MSDS has been prepared in accordance with the GHS 16-section format. The principal hazards of hardwood charcoal are self-heating in bulk and the production of toxic carbon monoxide on burning – charcoal must NEVER be burned in unventilated indoor spaces. Information relates to the specific material designated.

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