

Safety Data Sheet (SDS)

Wood Ash

1. Identification

TRADE NAME(S):	Wood Ash (for material sold in the United States)
SYNONYMS:	Biomass Fuel Ash, Wood Boiler Ash, Wood Fly Ash, Fly Ash, CDK Ash, Batch Kiln Ash
PRODUCT USES:	Soil amendment and treatment

2. Hazard(s) Identification (cont'd.)

<p>Specific Target Organ Toxicity (STOT) (H335)</p> <p>Acute toxicity - Category 4 (H332)</p>	<p>May cause respiratory irritation</p> <p>Corrosive, harmful if swallowed</p>	
<p>PHYSICAL HAZARD(S)</p> <p>Combustible Dust (OSHA Defined Hazard)</p>	<p>Due to variable combustion conditions, wood ash may contain varying amounts of residual combustible dust. If dry and converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air.</p>	<p>None</p>

*Hazard codes (GHS)

HMIS Rating (Scale 0 -4): Health = 3* Fire = 1 Physical Hazard = 1
 NFPA Rating (Scale 0 -4): Health = 3 Fire = 1 Reactivity = 0

Precautionary Statement(s):

Prevention Statements:

- P202: Do not handle until all safety precautions have been read and understood.
- P210: Keep away from sparks flames or other heat sources.
- P243: Take precautionary measures against static discharge.
- P260, P261 and P262: Avoid breathing dust. In case of inadequate ventilation wear an approved respirator suitable for conditions of use.
- P271: Use outdoors or in a well-ventilated area.
- P280: Wear appropriate protective equipment for eye and skin exposure.
- P362 and P363: Take off contaminated clothing and wash before reuse.

Response Statements:

- P304+P340+P313: If inhaled and breathing becomes difficult, remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a doctor or other qualified medical professional.
- P333+P313: If skin irritation or rash occurs get medical advice/attention.
- P352+P264: If on skin wash with plenty of soap and water.
- P362+P364: Take off contaminated clothing and wash before reuse.
- P305+P351+P338: If in eyes, rinse cautiously for several minutes. Remove contact lenses if present and easy to do so.

Disposal:

- P501: Dispose of in accordance with federal, state, and local regulations.

Ingredients of Unknown Acute Toxicity (>1%): NAP

3. Composition/Information on Ingredients

Ingredient (s) [†]	CAS#	Wt. %
Wood Char (incompletely burned wood material containing residual Carbon)*	NAV	5-50
Silica (amorphous, non-crystalline) (SiO ₂) **	7631-86-9	1-10
Silica (crystalline, quartz) (SiO ₂)		

4. First Aid Measures

Inhalation: If inhaled, remove person to fresh air and keep comfortable for breathing. Get medical attention if breathing difficulties do not quickly resolve or if exposure was extensive. Chronic injury depends on the duration, level of exposure and makeup of the ash but may cause respiratory irritation.

Eye Contact: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Medical evaluation is recommended if symptoms persist or if exposure was extensive.

Skin Contact: If on skin or hair, rinse off using water or otherwise remove immediately (vacuum, gentle brushing), take off contaminated clothing and wash before reuse. Obtain medical attention for signs or symptoms of persisting skin irritation or any skin damage.

Skin Absorption: Not known to be absorbed through the skin.

Ingestion: Rinse mouth and do not induce vomiting.

Symptoms or Effects:

Acute Symptoms/Effects – May cause irritation and corrosive burns to the eyes. As the material becomes wet on contact with moisture such as the eye surface or sweat, it can form a corrosive liquid and cause burning and corrosive damage of the eyes and skin depending on concentration and degree of contact. Airborne wood ash can settle on exposed skin and may cause irritation and corrosive burns. High concentrations of airborne wood ash may cause unpleasant obstruction to the nasal passages, nosebleed, chemical irritation, and possible corrosive burns to the membranes of the upper respiratory tract. Causes skin irritation

7. Handling and Storage

Precautions to be Taken in Handling and Storage: When wet, wood ash may become corrosive depending primarily on oxidation state of calcium oxides. Use proper personal protective equipment (gloves and goggles) when handling.

Loading and unloading wood ash may generate excessive airborne ash dust. Barrier cream may protect the skin from drying and provide some protection against corrosivity. Use a NIOSH-approved filtering facepiece respirator ("dust mask") and dust goggles when recommended allowable exposure limits may be exceeded. Care is needed to avoid dust accumulation between the respirator sealing surface and the skin.

Keep bulk and bagged ash dry until used. Stack bagged material in a secure manner to prevent falling. This product may present an engulfment hazard. To prevent burial or suffocation, do not enter a confined space such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains ash. Ash can build up or adhere to the walls of a confined space. The ash can release, collapse, or fall unexpectedly.

Depending on concentration and degree of hydration of any Calcium Oxide, heat may be generated from the chemical reaction of CaO and water. Depending on amount and concentration, significant heat buildup may occur if calcium oxide reacts with water.

Areas of accumulated wood ash may retain heat for extended periods of time. Wood ash should be stored and transported to the extent possible in a covered bin or container.

Dry and fine ash dust may pose a combustible dust hazard. Keep ignition sources away from airborne dust clouds.

8. Exposure Control Measures/ Personal Protection

Exposure Limits/Guidelines:

Ingredient(s)	Agency	Exposure Limit (s)	Comments
Wood Ash, as Particulate Not Otherwise Regulated (PNOR, PNOS) ^A	US-OSHA		re Hc 0 Tw 13.446 02.281

8.

11. Toxicological Information (cont'd.)

Magnesium oxide: No LD₅₀/LC₅₀ information found relating to normal routes of occupational exposure.

Manganese: Oral LD₅₀ rat: > 3478 mg/kg

Iron oxide: Oral rat LD₅₀: greater than 10000 mg/kg

Potassium carbonate (if present): Oral rat LD₅₀: 1870 mg/kg.

Target Organs: Skin, eyes, and respiratory system

12. Ecological Information (optional section)

Ecotoxicity : No information available on mixture as generated.

Biopersistence and Degradability: Materials can be used as an amendment to add calcium, potassium, and magnesium to the soil. USDA (1998) reported that trace levels of heavy metals were within normal ranges for plants growing on areas treated with wood ash.

Bioaccumulation : No information available.

Soil Mobility: No information available.

Other Adverse Effects: NAP

13. Disposal Considerations (optional section)

Waste Disposal Method: Dry land disposal is acceptable and is not usually considered a hazardous waste in most states. However, wood ash will become corrosive in the presence of water, due to the calcium, magnesium, and potassium content. Do not dispose in areas of high ground water or where surface runoff is adjacent to waterways. It is, however, the user's responsibility to determine at the time of disposal whether the product meets EPA RCRA criteria for hazardous waste. Follow applicable federal, provincial, and local regulations.

14. Transport Information (optional section)

Mode: (air, land, water) It is the shipper's responsibility to ensure this material is evaluated and treated in accordance with US DOT and/or local transportation requirements.

UN Proper Shipping Name:	NAP
UN/NA ID Number :	NAP
Hazard Class:	NAP
Packing Group:	NAP
Environmental Hazards (Marine Pollutant):	Yes
Special P recautions:	NAP

15. Regulatory Information (optional section)

WHMIS (Canada): Not yet classified since material not commercialized in Canada.

TSCA: Ingredients are listed on the TSCA inventory.

DSL (Canada): NAP

CERCLA: Material has not been assessed per CERCLA lists.

US-OSHA: Wood ash is considered to be a hazardous chemical in accordance with OSHA classification criteria. Since respirable crystalline silica may be present in the material, refer to OSHA standards 1910.1053 (General Industry) and/or 1926.1153 (Construction) if applicable.

STATE RIGHT-TO-KNOW: User should consult local state requirements for listed ingredients.

15. Regulatory Information (optional section cont'd.)

SARA 313 Information:

SARA 311/312 Hazard Category:

Health Hazard: Immediate (acute) health hazard Yes (see Section 2)

Health Hazard: Delayed (chronic) health hazard Yes (see Section 2)

Physical Hazard: combustible dust Yes (see Section 2)

16. Other Information

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16. Other Information (cont'd.)

OEL = Occupational Exposure Limit
ON-MOL = Ontario Ministry of Labour
OSHA = United States Occupational Safety and Health Administration (US-OSHA)
PEL = Permissible Exposure Limit
PNOR = Particulate Not Otherwise Regulated

Wood Ash

(US market only)

Danger

Prolonged or repeated inhalation exposure to respirable crystalline silica may cause lung cancer and permanent damage to the respiratory system.

May cause irritation and chemical-like burns to the skin and eyes and respiratory tract.