

Guidance for the Remediation of Lead-Contaminated Soils from a Residential Copper-wire Burn Site

The Department of Environmental Quality testing has shown that ash frequently has high concentrations of lead when generated from burning copper wire to remove the insulation in burn pits. Because exposure to lead, especially in children, is proven to have many adverse health effects, DEQ has developed this guidance document to alert homeowners of the potential health hazards associated with lead contamination in burn pits and to provide guidance for clean up.



Health Concerns

The two primary routes of lead exposure associated with burn pits are ingestion and breathing the dust or particulates contaminated with lead. Often burn pits can be an attraction for young children and because they are especially prone to placing their hands or foreign objects into their mouths, they are most susceptible to accidental ingestion. High levels of lead in their bodies can cause many harmful effects.

Some of these effects for young children are:

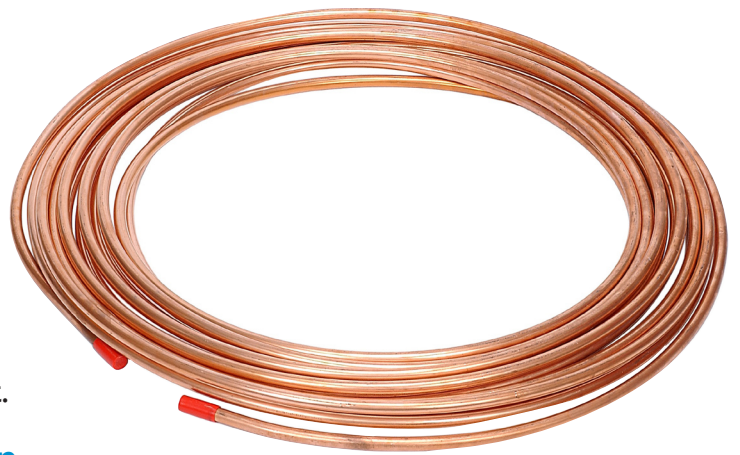
- damage to the brain and nervous system;
- behavior and learning problems, such as hyperactivity;
- slowed growth;
- hearing problems; and
- headaches.

Even in adults, high levels of lead in the body can cause harmful effects, such as:

- reproductive problems (in both men and women)
- high blood pressure;
- nerve disorders;
- memory and concentration problems; and
- muscle and joint pain.

Remediation of the Burn Pit

This procedure is only applicable to small residential burn pits (approximately 25 square feet). DEQ is providing to you, as the property owner, two choices for clean up. DEQ believes these guidelines represent a safe, relatively inexpensive way for property owners to protect themselves and their families from possible lead exposure associated with burn pits while also protecting the environment.



Method One - In-place Stabilization

NOTE: While performing clean up, it is important to wear a dust mask and eye protection to ensure lead-contaminated and/or corrosive dust particles are not breathed in or get into the eyes. Clothing worn during the remediation process should be thoroughly washed to remove any contamination.

1. Dampen the burn site including any partially burned or unburned material to minimize the spread of lead contaminated dust.
2. Remove all unburned material from the burn pit and ensure proper disposal at a municipal solid waste landfill.
3. Dampen the remaining ash to minimize the spread of dust. Thoroughly mix the ash and the top two to four inches of soil with concrete and water (approximately four parts ash to one part concrete). Allow to harden.

Method Two - Contaminant Removal and Disposal

If Method Two is followed, DEQ will issue a letter to the property owner acknowledging that the remediation was performed in accordance with this guidance.

NOTE: While performing clean up, it is important to wear a dust mask and eye protection to ensure lead-contaminated and/or corrosive dust particles are not breathed in or get into the eyes. Clothing worn during the remediation process should be thoroughly washed to remove any contamination.

1. Dampen the burn site including any partially burned or unburned material to minimize the spread of lead contaminated dust.
2. Remove all unburned material from the burn pit and ensure proper disposal at a municipal solid waste landfill.
3. Dampen the remaining ash to minimize the spread of dust. Excavate the entire burn pit including remaining ash to a depth of at least one foot below the bottom of the pit and at least one foot beyond its edges.
4. To verify adequate remediation contact the local DEQ Office at 405.702.6100. DEQ will come to the property to obtain a composite soil sample. If the test results show total lead less than 500 mg/kg, the property owner may proceed to the next step. If sample results are greater than 500 mg/kg, additional excavation and another sample will be required. DEQ will provide sample results to the property owner.
5. Mix the excavated soil/ash mixture with concrete and water (approximately four parts ash to one part concrete). Allow to harden.
6. Fill the excavation with clean soil and seed, sprig, or sod with vegetation. The clean soil may be obtained from an uncontaminated area on the property.
7. After the excavated ash/soil mixture has been stabilized according to this procedure, it must be disposed at a local municipal landfill and cannot be used as fill in another location. The property owner must provide landfill receipts before the letter can be written.

If property owners have additional questions, they should contact their local DEQ office.