

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

Burning of insulated wire is prohibited. Burning wire to remove insulation releases airborne pollutants and toxic metals. DEQ testing has shown that ash generated from burning copper wire has high concentrations of lead. 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 at burn sites and to provide guidance for cleanup.

Health Concerns

The two primary routes of lead exposure associated with burn sites are ingestion and breathing dust or particulates contaminated with lead. Often burn sites can be an attraction for young children. 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 the 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 Site

This procedure is only applicable to small residential burn sites (approximately 25 square feet). DEQ provides you, as the property owner, with two choices for cleanup. 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 wire burning while also protecting the environment.



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

Method One – In-Place Stabilization

Dampen the burn site, including any partially burned or unburned material, to minimize the spread of lead-contaminated dust.

1. Remove all unburned material from the burn area and ensure proper disposal at a municipal solid waste landfill.
2. 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.

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 area 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 area, including remaining ash, to a depth of at least one foot below the burn area and at least one foot beyond its edges.
4. To verify adequate remediation, contact the local DEQ Environmental Specialist (link below) or DEQ's Environmental Complaints and Local Services Division at **(405) 702-6100**. Soil testing in the excavated area is required to confirm lead levels. If the test results show total lead less than 200 mg/kg, the property owner may proceed to the next step. If sample results are greater than 200 mg/kg, additional excavation and another sample will be required.
5. Mix the excavated soil/ash mixture with concrete mix and water (approximately four parts ash to one part concrete mix). 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, which can be found at <https://www.deq.ok.gov/deq-local-offices/>.