



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH ENVIRONMENTAL HEALTH SECTION

EHS Circular Letter 2009-34

To: Directors of Health
Chief Sanitarians

From: Gary Ginsberg, PhD, Toxicologist
Environmental and Occupational Health Program

Date: May 5, 2009

Re: Arsenic in Playground Soil and Landscape Materials from Pressure-Treated Wood

This document provides additional guidance to the July 10, 2008 document provided to Local Health Departments on handling residual contamination stemming from arsenic in playscape wood entitled *Old Playscapes Can Expose Young Children to Arsenic*. This letter serves as a reminder for towns to address older pressure-treated wood play structures and addresses questions that have been raised since last summer's advisory. CT DPH also has guidance on pressure-treated wood structures for homeowners available at: http://www.ct.gov/dph/lib/dph/environmental_health/eoha/pdf/pressure_treated_wood.pdf.

Arsenic is a toxic and carcinogenic metal that has historically been used as a pesticide and wood preservative. The arsenical pesticide that is used to treat wood can over time leach out from the wood and contaminate the soil or landscape materials such as sand, wood chips, pea gravel, etc directly underneath the structure. For this reason, arsenic-based pressure-treated wood was discontinued nationwide at the end of 2003. Although sale of the wood was discontinued there are a number of older wooden playscapes that may be leaching arsenic.

The following set of recommendations is intended to help towns recognize and address situations in which playscapes are a source of exposure to arsenic. The overall goals are to prevent leaching and to ensure the mitigation of contaminated soil (removal or secured in place).

A. If the playscape remains in place:

1. If towns choose to retain old (pre-2004) pressure-treated wood playscapes, the frequent use of sealants (at least once per year) is necessary to minimize arsenic leaching from the wood
2. Soil underlying and in contact with the wood may be contaminated with arsenic from years of leaching. This is especially so directly surrounding ground contact vertical support poles, which are the portions that are highest in arsenic. In order to prevent further leaching and minimize human contact with potentially contaminated soil remaining in place, the following steps should be taken.



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- a. Soil directly surrounding vertical support poles, should be dug out to a distance of 1 foot around the poles and at least six inches below grade, then backfilled with clean soil or other acceptable material.
- b. The remaining area directly below and adjacent to the pressure-treated playscape equipment may also be impacted by arsenic. Remove the surficial ground cover directly below and within 5 feet of the playscape. This cover may consist of sand, pea stone or wood chips.
- c. If the area consists of bare soil, remove the top 3 inches and replace it with clean soil, then cover with wood chips, rubber matting, sand or grass. For extra protection, consider placing landscape fabric as a warning barrier beneath the new backfill material. Placing or printing written notification such as “do not disturb soils below landscape barrier” on the landscape fabric barrier would provide further assurances for minimizing human contact and disturbance of soils below the landscape barrier.

Alternatively, towns may choose to replace the old playscape. When constructing a new playscape there are a variety of wood products that do not contain arsenic or other highly toxic pesticides. Pressure-treated wood has been reformulated (since 2004) to be arsenic-free while plastic/wood composites and naturally rot-resistant wood products are also free of arsenic.

B. If the plan is to build a new playscape area in a different location:

In this case, the area from which the playscape was removed may be used for other types of recreation. Given that it can have residual arsenic contamination, the following steps should be taken to ensure that contact with contaminated soil in the former playscape area will not occur in the future use.

1. Remove cover materials or the top 3 inches of soil (if bare soil) from the entire former playscape area (directly below and within 5 feet of the play structures).
2. Cover with landscape barrier as described above, then add clean fill. The town can elect to plant new grass or cover with an alternative material.
3. Protect the area from future activities that may expose the potentially contaminated soil. This includes prevention of soil from being excavated for construction purposes or dug up by students or animals.
4. Periodic inspection by school personnel is recommended to ensure that the public does not come in contact with arsenic-containing soil or materials.

C. If you plan to build the new playscape in the same spot as the old one:

1. Remove impacted cover materials (pea stone, sand or wood chips) or soil (to 3 inch depth) as described above. Pay special attention to removing soil surrounding where the support poles had been as described above.
2. Prior to backfilling with clean soil or suitable material (e.g., sand, pea gravel, wood chips), place a landscape fabric barrier over the potentially contaminated soil that has been left behind to limit disturbance and human contact with the material.

D. Handling Arsenic-Contained Waste Materials

The pressure treated wood and wood chips that may have been contaminated may be disposed of as bulky waste at a permitted solid waste municipal transfer station. The disposal of the materials will need to be coordinated with the owner/operator of the facility. Any surficial soil/sand that is removed can either be relocated onsite under the landscape fabric in a secure, well marked location away from staff and student activities or characterized for contaminant concentrations and disposed of at a landfill that accepts polluted soil. For additional questions on the disposal of bulky waste material, please call the Department of Environmental Protection at 860-424-3366.

Other Options for Handling Contaminated Soil

If in any of the above scenarios, soil removal is impractical or too costly, consider other options such as paving or using a landscape fabric barrier to physically cover the impacted areas followed by the placement of an appropriate backfill material. For example, if a new playscape is to be built on the same location, a good choice may be a 6" layer of sand above the barrier.

The town should maintain an official record of any contaminated soil left in place. This should be in the form of a written notice to the local health department or health district with this notice also placed on the deed or land record for the property. This should indicate the zone of impacted soil and it should stipulate that this zone is not to be excavated, disturbed or redeveloped for residential purposes or other high activity uses without notification of appropriate public health or environmental officials. This would likely involve review of testing data and a site plan before approval of a new land-use.

For More Information:

Site work and can be submitted to Connecticut Department of Public Health (DPH) for review.
Contact the Connecticut Department of Public Health: 860-509-7740

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