



The Alliance for a **HEALTHY TOMORROW**

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Sealing CCA-Treated Wood: Short Term Measures For Reducing Exposure to Arsenic

What is CCA-Treated Wood?

Pressure-treated wood, used for outdoor structures like playground equipment, stadiums, decks, and picnic tables, is almost always treated with chromated copper arsenate, or CCA, to protect against weather, mold, and insects. CCA contains chromium and arsenic, which are hazardous to human health. Arsenic is a known carcinogen, linked to skin, bladder, lung, liver and kidney cancers, as well as immune suppression, cardiovascular disease, and diabetes.¹ Recent studies suggest that even very low levels of arsenic can change hormone functions.²

When a child plays on a playground with arsenic-treated wood, arsenic can rub off on her hands and skin. Children normally put their hands in their mouths an average of six times an hour,³ so a child who has arsenic on her hands is likely to get arsenic in her mouth as well. It has been estimated that a child ingests 24 to 630 micrograms of arsenic while playing just once on a play structure with arsenic-treated wood.⁴

Arsenic in wood has been banned or restricted by other countries, including Switzerland, Vietnam, Indonesia, Japan, Denmark, Sweden, Germany, and Australia. However, CCA is still manufactured and widely sold in the United States. Recent voluntary phase-out of CCA-wood by the industry is a good first step in keeping this poison out of our kids' reach, but it doesn't keep all arsenic-treated wood out of our homes or the waste stream.

The best option for limiting exposure to arsenic is to use alternative products when building the structure. If you identify a structure made with CCA-treated wood already, have it replaced with a safer alternative. But if an existing CCA structure cannot be replaced immediately, it is better to seal the wood as a short-term measure than to leave it alone.

How to Recognize CCA-Treated Wood

If you are buying new wood in a hardware store, check for a label or plastic tag fastened to the end of the wood. If there is no label or tag, ask the store manager for wood not treated with arsenic. Do not buy wood treated with CCA.

It may be hard to identify CCA wood after it has been in use. In Massachusetts, if you're not sure if the wood in a playground or deck is CCA, look at a protected or underside of the structure for a greenish tinge to the wood. This combined with the presence of a black ink lumber grade stamp on the flat surface of the wood which has the initials SYP (Southern Yellow Pine) in block letters will in almost all cases indicate CCA wood. You may also contact the property owner, manufacturer, builder or the responsible authority for the structure to ask if it is constructed out of CCA wood. Finally, swipe tests to identify arsenic-treated wood are available from most commercial labs or through www.healthybuilding.net.

If you find CCA-treated wood in your community or home, it is best to replace it with safer alternatives. However, if you cannot replace the structure right away, cover it with a sealant. Sealants can reduce exposure to the leaching of arsenic up to 95%⁵, but they are only effective for a year or two without reapplication.

Sealing CCA-treated Wood

Sealing involves treating the wood by applying a layer of paint or stain. Currently, there is a lack of information about which paints or sealants are best for temporarily reducing arsenic leaching. In addition, many paints and most sealants pose some environmental threats. You should try to find the safest possible sealant that will last, and is appropriate for the place you need to use it.

Paints and sealants labeled with a Green Seal (www.greenseal.org) have met criteria for reduced environmental and health impacts. Some companies such as AFM (SafeCoat paints), Miller Paint, and Bioshield make low-toxicity paints and stains. There may also be resources in your community such as “green” building stores where you might find environmentally preferable choices.

Latex paint may be a good choice, particularly for vertical surfaces. It is water-based, which is safer in the environment than solvent-laden oil-based paints, but tends to chip as it wears. The chipping can be helpful, as it indicates clearly that it is time to treat the wood again. However, latex paint quickly chips away under foot traffic, and would need to be replaced frequently in areas where people walk. Another option is oil-based stains, which are more toxic than water-based, but are often more durable. In general, treatments should be repeated every two years, or more frequently for high foot-traffic areas or anywhere that seems to be wearing heavily.

Products to avoid:

- ✓ **Do not use acid deck wash or brighteners. These substances can release more arsenic from the wood.**
- ✓ **Paints and solvents that contain VOCs, or Volatile Organic Compounds.** VOCs are what give fresh paint its characteristic smell. VOCs can cause headaches, nausea, fatigue, dizziness, and many other health problems. Some may cause cancer. You can determine the VOC content of paint by reading the label or the official product literature. The best choice is to buy paint with no VOCs. But if the paint you need for the job contains VOCs, try to choose a paint no higher than 250 grams per liter for latex, and if you must use oil-based paint, no higher than 380 grams per liter. However, these are maximum levels- you should try to find paint containing the lowest possible level of VOCs. Most manufacturers sell paints and stains with Low VOC levels, and several make no-VOC paints. Even paint with low VOC content may contain other toxic chemicals or metals, such as mercury. Water-based products emit lower levels of VOCs. They are also less toxic, less flammable, and safer for the environment. However, they may still contain hazardous products and tend to be less durable.
- ✓ **Products that contain formaldehyde, fungicide, heavy metals, preservatives or mildewcide.**

To dispose of paint or coatings properly, call 1-800-CLEANUP for more information.

The Alliance for a Healthy Tomorrow is a coalition of citizen organizations, health professionals and educators formed to establish new policies to prevent harm from toxic hazards. **The Alliance is calling on Massachusetts Acting Governor Jane Swift to ban the sale of CCA-treated wood in the state.**

For more information or to join our efforts, call 617-338-8131.

www.healthytomorrow.org

¹ National Research Council 1999. Arsenic in drinking water. National Academy of Sciences. Washington, DC.

² Kaltreider RC, Davis AM, Lariviere JP, Hamilton JP. Arsenic alters the function of glucocorticoid receptor as a transcription factor. Environmental Health Perspectives 109(3):245-251.

³ Zartarian VG, Ferguson AC, Leckie JO. Quantified dermal activity data from a four-child pilot field study. Journal of Exposure Analysis and Environmental Epidemiology 7(4): 543-552.

⁴ California Department of Health Services. Evaluation of the hazards posed by wood preservatives on playground equipment. Office of Environmental Health Hazard Assessment. Report to Legislature. 1987

⁵ Stilwell DE. Arsenic from CCA-treated wood can be reduced by coating, Frontiers of Plant Science 1998; 6-8.