Health Canada Santé Canada

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Consumer Product Safety

Chromated Copper Arsenate (CCA) Treated Wood

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This document provides a summary of the current information available on Chromated Copper Arsenate (CCA) used as a preservative for wood. Health Canada's Pest Management Regulatory Agency and the United States' Environmental Protection Agency are actively cooperating to re-evaluate CCA according to current scientific standards. Current risk assessment methods are being employed in this re-evaluation, which will include consideration of workers' exposure and a special focus on sensitive sub-populations such as children who may come in contact with treated wood.

The target for completion of the re-evaluation is 2002.

This fact sheet will be updated to reflect the conclusions of re-evaluation.

What is CCA and where is it used?

CCA is a water-born preservative containing arsenic, chromium and copper. It is used for the long-term protection of wood against attack by fungi, insects and marine borers. Applying wood preservatives extends the productive life of wood, and helps reduce demand for forest resources. CCA-treated wood is used primarily for structures intended for outdoor settings, such as construction lumber and timbers, utility and construction poles, marine timbers and pilings, and fences.

How is wood treated with CCA?

Wood is treated in commercial plants by trained workers, using pressure to force the solution into the wood. Prior to the wood being treated, small cuts are made into its surface to improve the penetration of the preservative solution. The wood is then stacked and loaded into a sealed chamber where the wood's natural moisture is removed by vacuum. The chamber is then pressurized, forcing the CCA preservative solution into the wood. The CCA preservative solution is what gives treated wood its greenish tinge. A vacuum is used to extract any excess solution. The wood is removed from the chamber, left to dry naturally during which time the wood preservative binds to the wood.

Is there a risk that the CCA preservative can leak out of treated wood?

It is possible that some of the preservative will be dislodged, depending on various factors such as wood species, treatment practices, age in service, and the environment in which the treated wood is installed. It is known that treated wood continually exposed to water in damp soil will lose more preservative than that exposed to an occasional rainfall. These factors are currently being re-assessed as part of the re-evaluation of CCA.

Is it safe to continue to use CCA wood preservatives when a risk of exposure to arsenic and these other metals exists, especially when it comes to children's exposure?

Arsenic, chromium and copper occur naturally in the environment.

Some studies have found that small amounts of arsenic, chromium and copper can dislodge from CCA-treated wood used in playground structures.

When the U.S. EPA reviewed CCA wood preservatives during the 1980s it concluded that CCA-treated wood did not pose an unreasonable health risk. A similar assessment, conducted by the U.S. Consumer Product Safety Commission in1990 concluded that short- and long-term health effects are unlikely to occur for individuals coming into contact with treated wood. Health Canada critically reviewed these assessments and agreed with the overall conclusions at the time. The re-evaluation of CCA is examining whether the exposure to these metals as a result of contact with CCA-treated wood and soil containing leachate from CCA-treated wood presents an unacceptable health risk to the general population and sensitive sub-groups such as children.

Previous assessments, and possible mitigation measures, are being considered during the current re-evaluation.

Can CCA-treated wood be used in direct contact with drinking water?

No, the use of CCA-treated wood in direct contact with drinking water is unacceptable. A workgroup which includes representatives from the wood treatment industry, retailers, government (Environment Canada, Health Canada including PMRA) and academia, are working to enhance user awareness of proper handling and disposal of preservative treated wood products.

Can I burn CCA-treated wood?

No, the practice of burning CCA-treated wood is unacceptable. Burning treated wood concentrates and releases the preservative chemicals in the ash and smoke of a fire. A workgroup which includes representatives from the wood treatment industry, retailers, government (Environment Canada, Health Canada including PMRA) and academia, are working to enhance user awareness of proper handling and disposal of preservative treated wood products.

What precautions should I be taking when working with pressure treated wood or CCA solutions?

CCA wood preservative solutions are not available to the general public and can be used only by specially- trained commercial or industrial users. Precautions that are to be taken when using and disposing of wood preservative chemicals are outlined on the product label.

Basic precautions to be taken when working with CCA-treated wood are as follows:

- Only purchase CCA-treated wood that is visibly clean and free of excess surface residues of the preservative, as these may contain dislodgeable toxic chemicals.

- Wear gloves and long sleeves when handling treated wood.
- Wear a dust mask, eye protection, gloves and long sleeves when sawing, sanding, shaping or otherwise machining treated wood to avoid skin contact with or inhalation of sawdust.
- Wherever possible, cut or otherwise work with treated wood outdoors.
- Wash hands and other exposed skin after contact, and before eating, drinking or smoking.
- Wash clothes before re-wearing. Wash separately from other clothing.
- After construction, all end cuts, sawdust, and construction debris should be cleaned up and disposed of in accordance with local regulations.

What should I do if I suspect poisoning from working with treated wood?

Unless you are exposed to burning treated wood which creates an inhalation hazard, it is unlikely that working with treated wood would result in enough exposure to cause symptoms. However, if you do suspect poisoning, you should phone your local poison control centre or contact your doctor.

What are the environmental hazards or concerns associated with CCA?

The environmental hazards of CCA-treated wood are related to the high toxicity of copper, chromium and arsenic to non-target organisms in freshwater and marine environments. The potential risk depends on the exposure, i.e., the amount of CCA being leached from treated wood into the aquatic ecosystem, directly or indirectly.

In general, small ground-based structures made from CCA-treated wood which is properly treated and properly fixed are unlikely to cause any environmental hazard. There are some data that indicate some sealants can reduce surface dislodgeability and leachability of the preservative metals. These data are being considered as part of the CCA re-evaluation. The environmental risk of CCA- treated wood coming in contact with freshwater and marine environments (including wetlands) is greater than in terrestrial environments and possible restrictions on aquatic use are currently being assessed.

The U.S. EPA is developing a stronger consumer information program for CCA-treated wood, including a website, and improved stickering and labelling at the retail level. Is Health Canada doing anything similar?

As part of the Canadian Environmental Protection Act's Strategic Options Process for the Wood Preservation Sector, a workgroup which includes representatives from the wood treatment industry, retailers, government (Environment Canada, Health Canada including PMRA) and academia, is working towards implementing an information program for CCA-treated lumber similar to what is being developed in the US, but tailored to the needs of the Canadian market. Enhanced consumer information on CCA-treated wood such as end-tag-labelling of each piece of treated wood, in-store lumber bin stickers and signs, a consumer information sheet and the establishment of a toll-free number and web-site will be implemented as soon as possible, with some components becoming available before others. Complete implementation of the program is scheduled for next spring (2002). Currently, information is provided voluntarily by retail outlets on the safe use and handling of CCA treated wood.

References:

Canadian Environmental Protection Act, Priority Substances List: Arsenic and Its Compounds, 1993, National Health and Welfare and Department of Environment.

U.S. Consumer Product Safety Commission (Washington, DC, CPSC, 1990). *Project on Playground Equipment - Transmittal of Estimate of Risk of Skin Cancer from Dislodgeable Arsenic on Pressure Treated Wood Playground Equipment*. Aug. 2, 1990.

Cooper, P.A. *Leaching of Wood Preservatives from Treated Wood in Service*. Public Works. Minister of Supply and Services Canada, 1991. ISBN 0-662-18870-5.

For more information about:

- pesticides, please contact the PMRA at 1-800-267-6315 or (613) 736-3799 outside of Canada or at www.hc-sc.gc.ca/pmra-arla.
- the Strategic Options Process for the Wood Preservation Sector, see www.ec.gc.ca/sop/display.cfm?sopID_n=12
- treated wood, please contact the Canadian Institute of Treated Wood at www.citw.org or (613) 737-4337.

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