



What should you do with treated wood in your playground?

Recently there have been media reports implying potential hazards to children from pressure-treated wood used in playground structures. In some communities, such equipment has been removed, often with considerable media attention and at significant expense.

Is there an unreasonable risk to children? What do responsible organizations advise? What does science say?

Treated wood

The treated wood typically used in playgrounds is the greenish colored wood that has been sold in many home centers and lumber yards for decks, fences, walkways, and many other applications. The preservative in this wood – chromated copper arsenate or CCA – protects the wood against deterioration due to termites and fungal decay. CCA was invented in 1933 and has been used extensively since the mid 1970s.

Since the preservative is a pesticide, its production and use are regulated by the Environmental Protection Agency. Other federal, state, and local agencies are also involved in regulating its transportation, use, and disposal.

After December 30, 2003, by the voluntary decision of preservative manufacturers based on changing demand, CCA will no longer be used to preserve wood for non-industrial applications. CCA will continue to be used for a broad range of industrial uses, while other types of preserved wood are being produced for residential and playground projects.

EPA & CCA-treated wood

As part of the registration of the preservative, EPA has spent many years examining issues related to CCA-treated wood. The Agency's most significant pronouncement, as least as far as what to do with CCA-treated play structures is concerned, came in February 2001 when EPA said:

EPA has not concluded that CCA-treated wood poses unreasonable risks to the public for existing CCA-treated wood being used around homes or from wood that remains available in stores. EPA does not believe there is any reason to remove or replace CCA-treated structures, including decks or playground equipment. EPA is not recommending that existing structures or surrounding soils be removed or replaced.

EPA continues to look at CCA and is completing a children's risk assessment on CCA-treated wood. [Note: A "risk assessment" is the accepted scientific procedure used to evaluate whether a significant health risk exists from exposure to a chemical substance. The aim of a risk assessment is typically to support decision-making that is protective of the most vulnerable groups of people in society.]

Panel of Florida physicians

The Florida Department of Health appointed a panel of six physicians to investigate the issue of CCA-treated playground equipment. On June 14, 2002, a report was submitted by the panel, called the Florida Physicians Arsenic Workgroup. Here are excerpts:

The available data have not demonstrated any clinical disease associated with arsenic exposure from this use of the CCA treated wood. In addition, there have been no reported clinical cases of arsenic-induced manifestations that would be concordant with an excessive exposure to arsenic contaminated soil resulting from use of CCA treated wood at playground and recreational facilities.

Used since the 1960s, CCA-treated wood has never been linked to skin diseases or cancer in children exposed during recreational use.

...the Physicians Arsenic Work Group agrees with and supports the United States Environmental Protection Agency's directive that "EPA does not recommend consumers replace or remove existing structures made with CCA-treated wood or the soil surrounding those structures."

What others say

Louis Sullivan, M. D., former secretary of the U. S. Department of Health and Human Services and president emeritus of Morehouse School of Medicine:

...I concluded that children are safe, and that play structures constructed of this material have not been shown to pose a risk to health or safety...public health judgments must be based on research and evidence and the evidence does not show that CCA treated wood play structures are unsafe.

Theresa S. Bowers, Ph. D., principal of Gradient Corporation, consultants in toxicology and risk assessment:

The analysis in the Beck (2001) study indicates that during the period of the Complaint, exposure to arsenic from ingestion of food and water in a typical diet can be 69 times greater than a reasonable maximum exposure to arsenic from CCA-treated wood for all significant exposure routes...

Alan Hall, M.D., FACEP, assistant professor at Texas Tech University Health Services Center – El Paso and president and chief medical toxicologist at Toxicology Consulting and Medical Translating Services, Inc.:

CCA-treated wood (chromated copper arsenate) is not a health risk unless burned in fireplaces or woodstoves.

Gilbert Ross, M. D., medical director of the American Council on Science and Health:
We have found that there is no risk to human health. There has never been any evidence that a human being has ever been harmed by it. There is no evidence that children are exposed to toxic levels of arsenic from playing on pressure treated wood.

Gaylord Lopez, Pharm. D., director of the Georgia Poison Control Center:
If you look at the safety record and health effects, you find this is a very safe product.

Dr. Craig E. Shuler, Dr. Patrick J. Pellicane, and Garrey Carruthers, Ph. D.:
CCA-treated wood is a tested product offering minimal risks and substantial benefits. Its many real advantages are underscored by sound scientific research attesting to its safety; those advantages should not be overshadowed by ill-conceived, unfounded scare tactics.

Kenneth Brooks, Ph. D., president of Aquatic Environmental Sciences:
There are no documented instances describing a compromised biological integrity associated with the use of any form of treated wood, including CCA-treated wood.

Barbara Beck, Ph. D., principal of Gradient Corporation and lecturer in toxicology at Harvard University:

...the estimated potential risk of ingested arsenic from treated wood would contribute only modestly to total exposures to arsenic, particularly when lifetime exposures are considered. Moreover, the estimated intake of arsenic from treated wood is less than what is permitted by other regulatory standards established to protect public health, e.g., intake of arsenic from drinking water.

Bigger risks

Each year, about 150,000 children require emergency medical attention as a result of incidents at playgrounds. To our knowledge, not one of these cases has ever been caused by the preservative in CCA-treated wood.

Of greater concern should be the use of untreated wood and improper construction, each of which is more likely to lead to a injurious collapse during use. Moreover, alternative building materials are accompanied by bigger environmental impacts and their health consequences; CCA-treated wood is made from a plentiful, renewable resource and requires less energy to produce than does comparable substitutes.

Dr. Louis Sullivan notes an even larger health risk:

Today, my message to parents who are worried and are considering keeping their children off of public playgrounds is simply this: relax, the evidence is that your children are safe. I am, however, concerned about a bigger issue, which is the tendency in our society to devote

tremendous attention and resources to phantom risks, based on an anecdote or media report. The far greater risk to our children is allowing them to be sedentary and spend their free hours in front of a television screen instead of in the playground.

Toxicological risk

Arsenic is a naturally occurring element. Studies examining CCA-treated wood have established that the potential level of arsenic exposure is significantly lower than the levels adults and children are exposed to each day from background sources such as food and drinking water. There is no evidence to suggest that typical background exposures have resulted in adverse health effects.

The best available data from studies of U.S. and European populations exposed to elevated arsenic levels in drinking water – levels far exceeding those that could potentially result from contact with CCA-treated wood – show little or no evidence of increased risk of lung and bladder cancer.

One of the most comprehensive studies to examine the long term effects of actual childhood exposure to elevated arsenic levels – also above those resulting from contact with CCA-treated wood – was recently presented by Dr. Floyd Frost (Senior Scientist and Director of Epidemiology, Biostatistics, and Health Services Research, Lovelace Respiratory Research Institute) at the 2002 Society for Epidemiological Research Meeting. The study concluded that there was no evidence of elevated risk of lung or bladder cancer.

Coating treated wood

We support the use of water repellents for purposes of appearance and moisture protection, but based on existing scientific information, we don't believe that sealants are necessary from a safe-handling standpoint.

Closing thoughts

To put this whole matter in perspective, U.S. children are exposed to more arsenic from drinking water and food each day than from treated wood playsets. In fact, just one cup of cooked rice contains more inorganic arsenic than a child could potentially be exposed to in a day at a playground made of CCA-treated wood.

More information

Treated Wood Council
Wood Preservative Science Council
American Wood Preservers Institute
Western Wood Preservers Institute

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