

Toxic timber

Pressure-treated CCA lumber is everywhere, from decks to playgrounds to picnic tables.

And there is reason to believe it presents a threat to human health

By Melanie Conklin

Richard Lund had a rash all over his body. His hair was falling out in clumps, and he felt fatigued all the time. He says his doctor, not finding any cause, suggested it was “all in my head.” But Lund, a retired steam-plant worker from the town of Christiana near Cambridge, knew something was wrong.

“It was all kinds of bad things,” notes Lund, who was in his early 60s when this happened back in 1992. “I was losing my hair, breaking out in little pimples, losing weight, and I didn’t care if I lived or died.”

About eight months went by. Various doctors tried to treat him. A dermatologist prescribed medication for the rash; another offered something to make his hair grow back. Still, he felt ill. Then one day, Lund read a newspaper article on the travails of a family from Star Lake in northern Wisconsin. The family believed their home was built on a chemical dump because they were all sick; the youngest child had to have a tracheotomy. Other family members suffered blackouts, headaches, muscle cramps, intestinal problems and bleeding.

The eventual diagnosis was that family members, particularly the six children, were suffering at least in part from arsenic poisoning. But it wasn’t an assassin trying to kill them. The father was a carpenter and heated his house with a wood-burning stove, using scraps of wood he brought home from jobs. The wood was often pressure-treated CCA lumber. When burned, it released dangerous toxins into the family’s five-room home.

The description of the family’s symptoms hit Lund like a two-by-four. His first thought: “My God, that sounds like me.” He quickly figured out what had happened. Earlier that year, he’d hired some carpenters from Milwaukee to build a deck at his home. They knocked a couple of hundred bucks off the price in exchange for his willingness to sand it and clean up. He did so, burning the scraps in a 50-gallon drum. About two months later, his symptoms started.

“We didn’t know it was treated wood,” Lund attests. “Nobody stated anything about it being poison. But it’s a poison. That’s what it is.”

Under investigation

CCA lumber is the most common form of lumber sold for outdoor uses like decks, playgrounds, picnic tables and boardwalks. In fact, some six billion board feet of it are sold each year. The treatment allows the wood to withstand weathering, insects and rotting for decades. But what many people don’t realize is that CCA is a pesticide; it stands for copper chromium arsenate. And arsenate is just what it sounds like: arsenic.

Arsenic is not nice stuff, and neither is hexavalent chromium, the second ingredient. Both are highly toxic chemicals and known human carcinogens. The reason CCA wood, also known as green or brown treated wood because of the hue it often takes after treatment, isn’t regulated is because the assumption was that the chemicals stayed in the wood. Now there’s evidence this isn’t the case.

And that’s been making national headlines these days. The Environmental Protection Agency and the Consumer Product Safety Commission are both conducting investigations. The EPA has compelled the wood-preserving industry to adopt a labeling system to warn people of the hazards associated with this wood.

Last week, reacting to a new study by the National Academy of Sciences, the EPA stated that the health risks from arsenic are much greater than was previously assumed. The agency will suggest that the White House enact a tougher standard for acceptable levels of arsenic in drinking water.

This spring, the *St. Petersburg Times* ran a series of articles on the potential dangers of arsenic in wood, including tests showing very high levels of arsenic in the soil around various play sets and docks. The series prompted a reaction one wood industry spokesperson calls “bordering on mass hysteria.” Playgrounds were roped off with police tape, and structures were ripped from the ground. Even some life-guard stands were cordoned off. Within weeks of the articles, Florida Gov. Jeb Bush vowed to switch a state-owned wood-treating plant away from CCA to a formula that doesn’t rely on arsenic.

Closer to home, the Wisconsin state budget mandates a study on CCA wood, although the provision was significantly watered down and then partially vetoed by Gov. Scott McCallum. (See sidebar.)

And the state Bureau of Regulation and Licensing, responding to concerns from the Division of Health, is sending out a letter next week to all its licensed child-care facilities informing them that any CCA play structures on their property must be covered with oil-based sealant every two years. “With the arsenic in there, we’re deeming it a hazard,” says the bureau’s Anne Carmody, “and we have a rule that child-care centers should be hazard-free.”

All of these developments are a decade late for Lund. He turned to the doctor who treated the Star Lake family that he read about in the newspaper. That was UW Hospital’s Dr. Henry Peters, who agreed with Lund’s self-diagnosis. There was not much that could be done to treat Lund, since so much time had passed. But it was a great comfort to learn that his affliction had a cause.

Dr. Peters, who co-authored a paper on the Star Lake family for the *Journal of the American Medical Association*, has become something of a clearinghouse on the topic. He’s learned of numerous examples of arsenic poisoning among people and pets. He mentions a family in Janesville that was raising shar-peis. One dog went through a personality change, attacking people with whom it was formerly friendly. Peters discovered the family had built a new deck from CCA lumber and that this particular dog enjoyed licking up the sawdust.

The chair of the Boston University School of Medicine, Robert G. Feldman, wrote Peters in 1993 telling him of a fellow physician who had a workshop in his basement. “Several years ago, he spent the winter cutting pretreated wood in his workshop so that he could have it all ready to fit together for a deck,” writes Feldman. “Needless to say, his dog died, and he developed peripheral neuropathy with evidence of arsenic, not only in the wood chips, dust and in his hair, but clearly he has changes in his peripheral nerves that show the effects of it.”





Richard Lund, on his (now sealed) deck: 'Nobody stated anything about it being poison. But it's a poison.'

MARY LANGENFELD PHOTO

Should it be banned?

According to Peters, there are two forms of arsenic. The one usually cited in classic literature, made famous as a way to knock off an unwanted spouse or enemy, is the trivalent form. The pesticide that is in CCA wood is the penta form, but Dr. Peters stresses this inorganic form also poses a threat.

"There's bound to be a lot of hysteria with something like this, but I think it is all legitimate," asserts Peters, summing up his feelings on arsenic-laced wood. "In its present form, it should be banned."

CCA wood manufacturers — united under the banner of the American Wood Preservers Institute — insist their product is safe. And it's undeniably true that while pressured-treated wood is widely used, there are few known cases of arsenic poisoning. Still, no one seems to know for sure how much is too much.

One major source of concern is for children who play on playground equipment made with CCA wood. "We've pretty much set up an arsenic delivery system for kids," Richard Wiles, pesticide director for the nonprofit Environmental Working Group, told *Time* magazine.

In May, the green group Healthy Building Network released a report entitled "Poisoned Playground: Arsenic in Pressure-

Treated Wood." Its analyst, Renee Sharp, concluded that in "less than two weeks, an average 5-year-old playing on an arsenic-treated play set would exceed the lifetime cancer risk acceptable under federal pesticide law." The group petitioned the Consumer Product Safety Commission to ban arsenic-treated wood in playground equipment and to review its use in other consumer items. CPSC accepted its petition, initiating a review process.

Others worry about dogs who sit on or under CCA decks, or people who eat off CCA picnic tables. Then there are industry employees who use, cut and sell the wood.

Finally, there are serious concerns about the wood's environmental impact, especially when used on boardwalks, docks and viewing areas near water or when it sits in construction landfills, which are often unlined, allowing arsenic to leach into the ground. Some of this wood may even get recycled into such products as mulch, which people then use on their plants and gardens.

Governments at all levels are struggling to decide whether or not to regulate CCA lumber. At the root of their angst is that the

science is inconclusive and at times contradictory.

Recent studies have shown that arsenic is leaching out of decks, picnic tables, docks and, yes, play sets made with pressure-treated wood in amounts "significantly greater than established safe levels," according to Sherrie Gruder, a UW-Extension specialist with the Solid and Hazardous Waste Education Center, whose job funding was vetoed by Gov. McCallum in the latest budget. Moreover, "Most CCA-treated wood is disposed of in unlined construction and demolition landfills where, if there are significant quantities of treated lumber, arsenic may possibly leach into the groundwater."

The Madison-based Forest Products Laboratory estimates that 2.5 billion board feet of treated-wood products are entering the waste stream each year, a number that will only increase. Even the wood industry agrees it is best to throw CCA scraps into the regular trash where it will go to lined landfills.

But some scientists do not believe CCA wood poses a significant threat. And because it lasts about five times longer than untreated wood, it saves trees — an environmental plus.

A June article in *Environmental Health Perspectives* reports that the amounts of



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arsenic found on CCA-treated wood are a thousand times less than a potentially fatal dose. Last month, a study conducted by Gradient Corp. concluded that the risk to humans fell well within EPA standards. And, contrary to the impression given by a plotline on the hit TV show "The Practice" last fall, there's no reason to believe kids are getting seriously ill after spending time on CCA-treated playground equipment.

"The stuff has been around for 70 years, and there's not a single scientific article proving that it's harmed anyone by regular use, like a kid playing around on a play set," says American Wood Preserver Institute spokesman Mel Pine. "I think it has to do with a greater nervousness on the part of the public having to do with chemicals."

Pine freely admits that many safety precautions should be taken. Gloves, goggles and dust masks should be used when handling or sawing CCA wood; sawdust should be disposed of immediately and clothes used while working with it should be washed. The wood should never be burned, and it's a good idea to paint or seal it, which can cut arsenic leaching at least by half.

The problem is that many people who work with this wood are unaware of the need for these precautions. Lund and the Star Lake family are certainly not the first to burn CCA wood and release arsenic in the smoke and ash. Many amateur and even professional carpenters handle this wood without any sort of protection. And not all parents heed the advice Pine offers that kids should wash their hands after playing on CCA wood and that tablecloths and plates should be used when dining on CCA picnic tables.

The alternatives

In recognition of the potential dangers, local governments in Dane County are moving away from CCA wood. One popular alternative, made at a Wisconsin factory, is ACQ (alkaline copper quaternary) lumber. Play sets are also made using such nontreated woods as redwood or cedar, although environmentalists don't like to see those trees chopped down. Then there's recycled plastic "lumber" and a new treatment chemical, copper azole, that just recently became available in the United States.

Tom Gilbertson, a supervisor with the Madison Parks Department, says his department has been purchasing ACQ wood for the last three or four years: "That's basically the only thing we buy." Most of the city's wood playground structures have already been replaced with metal or plastic, for safety reasons. And any new picnic tables are made with ACQ.

Dane County Parks have also moved quietly away from CCA wood; all new picnic tables are aluminum. County Parks director

One major source of concern is for children who play on playground equipment made with CCA wood. Says one critic, 'We've pretty much set up an arsenic delivery system for kids.'



Ken LePine admits it's "very hard to determine who's right and who's wrong" in this debate. But the county decided to use only ACQ or non-wood products after a review of the issue in 1997 that included presentations from both sides. A major concern was employees handling and cutting wood.

"We feel it would be better to use the wood that will least impact the employees," says LePine. "Plus, we felt it was a better fit for our parks."

ACQ wood costs more, about 10% to 15%. But Pat Bischel, who co-owns the Northern Crossarm Co. in Chippewa Falls, the Wisconsin manufacturer of ACQ lumber, predicts that cost will come down as ACQ becomes more popular. It's been seven years since Northern Crossarm converted to ACQ, a fungicide that relies on recycled copper. It's made with quaternary compounds, which are biodegradable and found in shampoos and household cleaners.

"The primary difference is that our product doesn't have any hazardous chemicals," says Bischel, who confirms his business has benefited from media reports on the possible dangers of CCA.

One of Northern Crossarm's first ACQ customers was the Madison-based Fish Building Supply, now United Building Centers. Today, 95% of the wood sold there is ACQ, according to UBC manager Mike Vilstrup. "The product has a distinct advantage," he says. "It's a good environmental decision and friendlier for our workers and customers."

Local Home Depot and Menard's stores, when contacted, recommended CCA wood to build a play set, both saying the only alternative they offer is cedar. Although one Home Depot worker added, when pushed on CCA for a play set, "Well, it does have arsenic, you could consider that."

Mel Pine says if there's a demand for ACQ, the industry will comply, as it has already begun to do. "That will come from the marketplace, if that's what the marketplace wants."



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Political muscle

The American Wood Preservers Institute is well known for its effective lobbying on behalf of wood treaters. In fact, some observers consider the lack of government regulation of CCA pesticide in wood a testament to the \$4 billion-a-year industry's strength.

In the 1980s, when the EPA banned arsenic in pesticides, it created an exemption for CCA wood. Later it backed off a proposed ban on the use of CCA wood for playground equipment. "I'm sure there was a lot of pressure," speculates Tom Stoebig, a regulatory specialist in the state Bureau of Consumer Protection, which is helping perform a new state study on CCA wood.

The EPA's publicized assumption that the arsenic would remain in the wood has since been proven false. Now the agency is conducting another risk assessment, which it is accelerating to be completed in early 2002.

Stoebig says the industry's agreement to make voluntary public disclosure regarding possible hazards hasn't worked. "I built my own deck without wearing gloves, without a face mask," he says. "We were ignorant of this issue other than knowing not to burn it, and I wasn't given any information."

That is about to change. A widespread EPA labeling program, developed in concert with the industry, should be fully implemented by Oct. 1.

The program requires end-tag labeling of CCA, in-store bin stickers and signs. The new end-tags read: "Caution: Arsenic is in the pesticide applied to this wood. Never burn treated wood. Wear dust mask and goggles when cutting or sanding wood. Wear gloves when working with wood. Ask for the consumer safety information sheet or call 1-800-282-0600."

The information sheet, also available at www.ccasafetyinfo.com, warns, "Some chemical may migrate from treated wood into surrounding soil over time and may also be dislodged from the wood surface upon con-

tact with skin. Exposure to inorganic arsenic may present certain hazards." CCA wood, it says, should never be used for cutting boards, counter tops, animal bedding, mulch or anything that comes into direct contact with drinking water. (The wood industry pushed for the labels not to contain the word "arsenic"; EPA refused, also rejecting an industry request that the labels be colored green.)

If you ask Christiana resident Richard Lund, his advice is simple: Stay away from the stuff. In the past nine years, some of Lund's symptoms have disappeared or lessened. He's followed doctor's advice to drink a lot of water and eat a lot of protein. But what Lund went through made him acutely aware of the issue. He worries about lumber in the Dane County landfill and arsenic leaking into the water supply. And he stays clear of CCA wood; he won't even go in supply stores that sell it.

"The symptoms are never going to go away," says Lund. "I've never been the same. It's done its damage." ♦

Lawmaker warns of 'poison playgrounds'

The national debate over the safety of pressure-treated wood came home to roost in Wisconsin's recently signed biennial budget.

It was initiated by Sen. Brian Burke (D-Milwaukee), who authored an amendment to require the state to phase out state purchases of arsenic-treated wood by December 2002 and to ban its use for children's play sets.

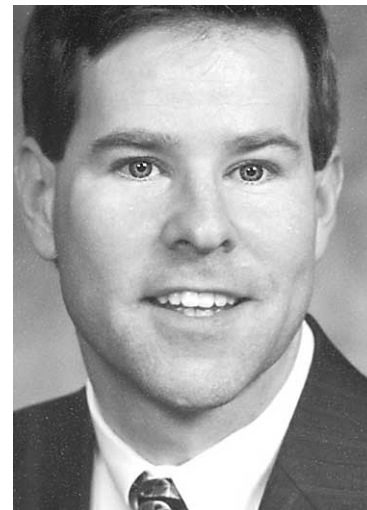
"The problem is poison playgrounds," asserts Burke, looking out the back window of his home at a play set built by a company that converted to non-arsenic wood. "This stuff is all over the Milwaukee area, while countries all over the world from Japan to Australia to Germany have banned [or severely restricted] it. My interest is public safety, so I'm advocating a ban on state purchases."

Burke's amendment also called for studying the viability of offering financial incentives

to get Wisconsin-based CCA wood-treaters to convert to a non-arsenic preservative. There are seven Wisconsin companies, says wood-preserved spokesman Mel Pine, and some national estimates say it could be done for \$40,000 per plant.

But Assembly Republicans, who were lobbied heavily by Pine and state CCA-lumber producers, watered down Burke's bill, which had passed Joint Finance 11-5. Gov. Scott McCallum then vetoed portions of the compromise "objecting to additional reporting burdens" and saying no future regulation should be specified. As the budget now stands, a report, but not follow-up action, is required.

That doesn't go far enough or fast enough, says Burke. He plans to introduce separate legislation for more immediate action next spring.



Sen. Brian Burke: 'My interest is public safety'

— M.C.



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