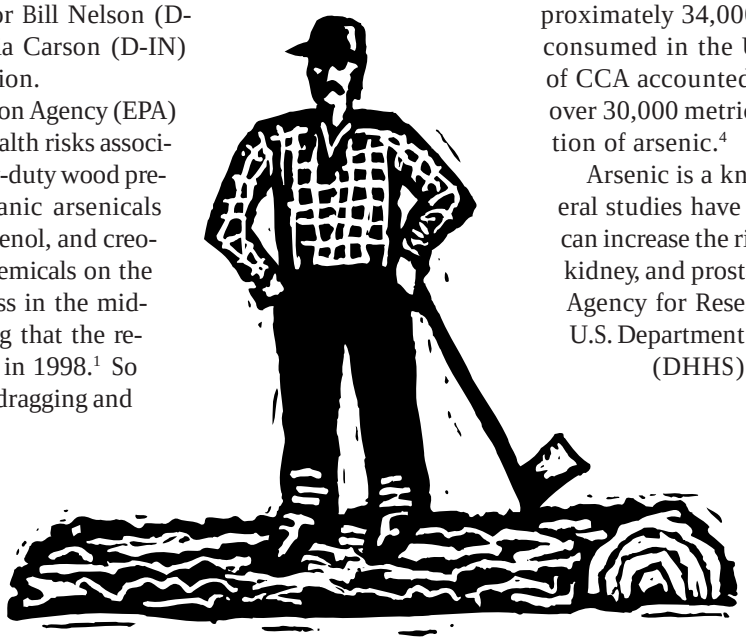
CCA-Treated Lumber Poses Danger From Arsenic and Chromium

What industry and EPA have avoided telling you could hurt you

by Greg Kidd, J.D.

What we have: A voluntary, unenforceable agreement between the Environmental Protection Agency and the wood treatment industry to provide consumers with safety information about wood treated with chromated copper arsenate (CCA) at point of purchase. Even industry officials acknowledge that it has never worked.

What we need: A law that requires all CCA-treated wood be affixed with warning labels providing consumers with information about the health effects of arsenic and how to minimize exposure. Senator Bill Nelson (D-FL) and Congresswoman Julia Carson (D-IN) have drafted just such legislation.



The Environmental Protection Agency (EPA) is currently reevaluating the health risks associated with exposure to the heavy-duty wood preservatives, namely the inorganic arsenicals (such as CCA), pentachlorophenol, and creosote, among the most toxic chemicals on the market. EPA began this process in the mid-1990s, and is on record stating that the reevaluation would be complete in 1998.[1] So began the EPA's history of foot dragging and delay with the wood preservatives. The latest statement from the agency is that the reevaluation process will not be complete before 2003. It remains the policy of Beyond Pesticides to see the heavy-duty wood preservatives taken off the market. In the meantime, it is critical that consumers be provided with information about the health risks of exposure to wood treated with these toxic materials.

EPA Is Well Aware of the Dangers of Inorganic Arsenical Wood Preservatives

Prior to 1978, the inorganic arsenicals were used in a significant number of pesticide products to control insects, fungi, weeds and rodents, as well as in wood preservatives. EPA began investigating the inorganic arsenicals in 1978 because of concerns that this family of chemicals presented risks of cancer, genetic mutation, and birth defects.[2] In that review, EPA separated the use of inorganic arsenicals as wood preservatives from all other uses. In 1988, the agency banned almost all uses of nonwood-preservative pesticide products containing inorganic arsenicals because EPA determined that arsenic posed an unacceptable risk to workers and others exposed to arsenic.[3] As of 1993, all uses of inorganic arsenicals had been prohibited except for the use of arsenic in wood preservatives. The use of arsenic in wood preservatives continues.

Wood preservative arsenicals are a mixture of ingredients. The most commonly used arsenical is CCA, which is a mixture of arsenic acid, hexavalent chromium (chromium (VI)), and copper oxide, plus unlisted "inert" ingredients in proportions that vary with the particular product. According to the United States Geological Survey (USGS), approximately 34,000 metric tons of arsenic were consumed in the U.S. in 2000 and production of CCA accounted for more than 90% (or well over 30,000 metric tons) of domestic consumption of arsenic.[4]

Arsenic is a known human carcinogen. Several studies have shown that inorganic arsenic can increase the risk of lung, skin, bladder, liver, kidney, and prostate cancer.[5] The International Agency for Research on Cancer (IARC),[6] the U.S. Department of Health and Human Services (DHHS)[7] and EPA have determined that inorganic arsenic is a human carcinogen based on sufficient evidence from human data.[8]

Several studies have shown that chromium (VI) compounds can increase the risk of lung cancer.[9] IARC,[10] DHHS,[11] and EPA have determined that chromium (VI) is a known human carcinogen.[12]

In 1978, EPA issued Notices of Rebuttable Presumption Against Registration, now called Special Review, for pesticide products containing the three heavy-duty wood preservatives. Only chemicals that trigger serious health and environmental concern are placed on this fast-track review. In 1981, EPA published Position Document 2/3 on the heavy-duty wood preservatives, proposing action based on the agency's determination that uses of inorganic arsenical wood preservatives could result in unreasonable adverse effects, including oncogenic, mutagenic, teratogenic and neurotoxic effects.[13]

EPA Is Well Aware that the Consumer Awareness Program Is a Failure

The agency proposed a mandatory Consumer Awareness Program (CAP) in 1984 that would have required members of

the American Wood Preservers Institute (AWPI) and wood treaters, along with retailers, to provide consumers with a Consumer Information Sheet (CIS) at point of purchase.[14] The action was immediately challenged by AWPI. It was evident that AWPI had succeeded in weakening EPA's position when EPA published the revised proposal in 1986; the mandatory CAP had been converted into a voluntary CAP.[15] The voluntary nature of the agreement meant that EPA had no enforcement authority.

EPA soon became aware of AWPI's non-compliance with the voluntary CAP. By 1994, EPA is on record stating that the agency was unable to mandate participation in the voluntary CAP and that there was lack of participation nationwide.[16] EPA refused to take any action against AWPI to encourage compliance with the CAP.

Arsenic Hits the Fan in 2001

During the Spring of 2001, the issue of CCA-treated wood hit the headlines when Florida newspapers, the *St. Petersburg Times* and the *Gainesville Sun*, ran a series of articles on arsenic leaching out of CCA-treated wood structures.[17] State officials in Florida found elevated levels of arsenic in soil under CCA-treated playground equipment. A number of parks were closed to protect the health of children. Both state and federal lawmakers began drafting legislation designed to curtail the use of CCA-treated wood and provide consumer information.

A number of important scientific studies came to light establishing that arsenic and chromium (VI) do leach out of CCA-treated wood into the soil and on to the surface of the structure at levels that pose real risks to health.[18] In the wake of this focus on CCA, the Environmental Working Group and Healthy Building Network produced a report on the risks to children from CCA-treated playgrounds[19] and filed a petition with the Consumer Product Safety Commission (CPSC) to ban the use of CCA-treated wood in playground equipment and to conduct a general review of the safety of CCA-treated wood.[20]

After sleeping on the job for 15 years, EPA woke up to the political and public outcry over arsenic leaching out of CCA-treated wood. EPA convened two closed-door meetings on May 9, 2001, soliciting ideas about how to improve the failed CAP. The first meeting was with a few members of the environmental community (including Beyond Pesticides) and the second with a large number of wood-treatment industry representatives. Members of the environmental community insisted that EPA convert the CAP to a mandatory program. The agency rejected that proposal.

The new CAP announced by AWPI along with EPA at a public meeting on June 7, 2001 was a complete disappointment to environmental and health advocates. The bottom line: the new CAP, like the old CAP, was voluntary and therefore unenforceable. The labels neither clearly stated that the wood contains arsenic nor listed health effects of exposure to arsenic (such as cancer), and the labels would be printed on a green background (not exactly eye catching).[21]

This new CAP has evolved at EPA's request. The latest version of the CAP includes the statement, "Arsenic is in the pesticide applied to this wood," and the statement, "Some chemical may migrate from treated wood into surrounding soil over time and may also be dislodged from the wood surface upon contact with skin." The proposed labels will be printed on a red background.[22] The labels fail to list any health effects from exposure to arsenic, and, most importantly, the CAP remains voluntary and therefore unenforceable.

Legislation Would Create Mandatory Public Disclosure

Both Senator Bill Nelson (D-FL) and Congresswoman Julia Carson (D-IN) have introduced straightforward legislation that would require that each piece of CCA-treated lumber offered for sale be affixed with a warning label.[23] Titled the *Arsenic-Treated Mandatory Labeling Act* (S. 877 and H.R. 2721), the legislation requires that the label state clearly that the wood contains arsenic and that, "Arsenic exposure through the mishandling of this wood can cause cancer, nausea, vomiting or diarrhea." Of equal importance is the requirement that EPA, in consultation with the CPSC, submit to Congress a report within 60 days of the bill's passage that provides an update of the ongoing review of the inorganic arsenicals.

Senator Nelson recently attached an amendment, entitled *Arsenic in Playground Equipment* (SA 1228), to the *Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002* (VA-HUD) (H.R. 2620). No similar amendment has been introduced in the House. Members of the House-Senate Conference Committee have yet to be named. For a list of Conferees visit the House Committee on Appropriations website at http://www.house.gov/appropriations/welcome.html or call them at 202-225-2771. Congresswoman Carson supports SA 1228 and is currently weighing her options on how best to proceed in the House.

Nelson's amendment passed the Senate by voice vote; that is a good indication that it is not considered controversial. SA 1228 requires that not later than 30 days after the date of enactment of VA-HUD bill, EPA, in consultation with CPSC, submit a report to Congress that includes:

- EPA's most up-to-date understanding of the potential health and safety risks to children playing on and around CCA-treated wood playground equipment;
- EPA's current recommendations to state and local governments about the continued use of CCA-treated wood playground equipment; and,
- an assessment of whether consumers considering purchasing of CCA-treated playground equipment are adequately informed concerning the health effects associated with arsenic. [24]

Take Action: It is critical that members of Congress hear from their constituents in support of the Arsenic-Treated Mandatory Labeling Act, S. 877 and H.R. 2721. Please contact your Senators and Representative and explain to them the risks associated with exposure to arsenic leaching out of CCA-treated wood. Ask them to support this important legislation.

It is also important to contact both the members of the Conference Committee on VA-HUD and your own representative. Urge them to support Arsenic in Playground Equipment *as amended to the appropriations bill, H.R. 2620.*

For more information about wood preservatives, explore our website and read Beyond Pesticides' two reports on the subject: Poison Poles, *focusing on the toxic trail left by heavy-duty wood preservatives from cradle to grave; and Pole Pollution, focusing on EPA's preliminary science chapter on pentachlorophenol and the results of our survey of utility companies. Contact Beyond Pesticides for more information at 202-543-5450 or www.beyondpesticides.org.*

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1 Letter from Lynn Goldman, M.D., Assistant Administrator, EPA, to Howard Freed, M.D. Albany Medical College and Department of Emergency Medicine (July 9, 1997).

2 U.S. Environmental Protection Agency, 1993. International Pesticide Notice. *EPA Cancels the Last Agricultural Use of Arsenic Acid in the United States.* http://www.epa.gov/oppfead1/17b/r2.htm.

3 Ibid.

4 U.S. Geological Survey, 2001. Mineral Commodity Summaries: Arsenic. http://minerals.usgs.gov/minerals/pubs/commodity/arsenic/160301.pdf.

5 Agency For Toxic Substances and Disease Registry, 2001. ToxFAQs for Arsenic. http://www.atsdr.cdc.gov/tfacts2.html.

6 World Health Organization, 1993a. Guidelines for drinking water quality: Arsenic. 2nd ed. http://www.who.int/water_sanitation_health/GDWQ/Chemicals/arsenicsum.htm.

7 National Toxicology Program, 2001a. 9th Report on Carcinogens: Arsenic Compounds, Inorganic. http://ehis.niehs.nih.gov/roc/ninth/known/arseniccmpds.pdf.

8 U.S. Environmental Protection Agency, 1998a. Integrated Risk Information System: Arsenic, Inorganic, CASRN 7440-38-2. http://www.epa.gov/iris/subst/0278.htm#II.

9 Agency For Toxic Substances and Disease Registry, 2001b. ToxFAQs for Chromium. http://www.atsdr.cdc.gov/tfacts7.html.

10 World Health Organization, 1993b. Guidelines for drinking water quality: Chromium. 2nd ed. http://www.who.int/water_sanitation_health/GDWQ/Chemicals/chromiumsum.htm.

11 National Toxicology Program, 2001b. 9th Report on Carcinogens: Chromium Hexavalent Compounds. http://ehis.niehs.nih.gov/roc/ninth/known/chromium_hex_comps.pdf.

12 U.S. Environmental Protection Agency, 1998b. Integrated Risk Information System: Chromium(VI), CASRN 18540-29-9. http://www.epa.gov/iris/subst/0144.htm#II.

13 U.S. Environmental Protection Agency, 1981. Creosote, Inorganic Arsenicals, Pentachlorophenol: Position Document No. 2/3. Washington, DC.

14 U.S. Environmental Protection Agency, 1984. Notice of Intent to Cancel Registrations of Pesticide Products Containing Creosote, Pentachlorophenol (Including its Salts), and the Inorganic Arsenicals. 49 FR 28666, July 13, 1984.

15 U.S. Environmental Protection Agency, 1986. Creosote, Pentachlorophenol, and Inorganic Arsenicals; Amendment of Notice of Intent to Cancel Registrations; Notice. 51 FR 1334, January 10, 1986.

16 State FIFRA Issues Research and Evaluation Group Issue Paper. 1998. Elimination of Mandatory Consumer Awareness Program for Creosote, Pentachlorophenol, and Inorganic Arsenical Treated Wood. Presented at SFIREG meeting in Seattle, May 18-19, 1998.

17 See the St. Petersburg Times On Line, The Poison in Your Back Yard. http://www.sptimes.com/News/webspecials/arsenic/, and the GainesvilleSun.com, Wood Worries, http://www.gainesvillesun.com/ARCHIVES/articles/woodarchive.shtml.

18 See for example: Department of Health Services for the State of California, 1987. Evaluation of Hazards Posed by the Use of Wood Preservatives on Playground Equipment. Report to the Legislature; Doyle, E. 1992. Field Study to Investigate the Leaching and Dislodgeability of Copper, Chromium and Arsenic Residues from CCA-C Treated Lumber and to Evaluate Means for Reducing Environmental Contamination and User Exposure. Prepared for Health and Welfare Canada; Roberts, S.M. and H.O. Ochoa. 2001. Letter dated April 10, 2001, addressed to John Ruddell, Director, Division of Solid Waste with Florida Department of Environmental Protection; Stilwell, D. 1998. Environmental Issues On The Use Of CCA Treated Wood. Prepared for the Department of Analytic Chemistry for the State of Connecticut. http://www.caes.state.ct.us/FactsheetFiles/AnalyticalChemistry/fsAC001f.htm.

19 Sharp, R. and B. Walker, 2001. Poisoned Playgrounds: Arsenic in 'Pressure-Treated' Wood. http://www.healthybuilding.net/pdf/poisoned_playgrounds.pdf.

20 Petition to the United States Consumer Product Safety Commission to Ban Arsenic Treated Wood in Playground Equipment and Review the Safety of Arsenic Treated Wood for General Use, filed by Environmental Working Group and Healthy Building Network, May 22, 2001. http://www.healthybuilding.net/pdf/petition.pdf.

21 See AWPI's proposed plan on their website at: http://www.preservedwood.com/safety/awpiprop_aware.pdf.

22 See AWPI's latest proposed plan on their website at: http://www.preservedwood.com/safety/safety_newmaterials.html.

23 *Arsenic-Treated Wood Mandatory Labeling Act*. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_cong_bills&docid=f:s877is.txt.pdf.

24 To read a complete copy of the *Arsenic in Playground Equipment* amendment, visit Beyond Pesticides' website at http://www.beyondpesticides.org/SA_1228.htm.