

ARSENIC AND TREATED WOOD

Arsenic is a naturally-occurring gray metal-like material found in the environment combined with other elements.

There has been no domestic production of arsenic since 1985. In 2003, the world's largest producer of arsenic compounds was China, followed by Chile and Peru. In 2003, the United States was the world's largest consumer of arsenic [ATSDR 2007].

In the past, the United States primarily used arsenic in insecticides such as ant killers and animal dips (the concentrated liquid forms of these are most toxic to humans). However, regulatory restrictions for arsenic, especially for home products, have reduced its use and should also reduce the exposure risk to it [NAS 1977].

Because arsenic is a natural part of the environment, low levels of arsenic are present in soil, water, food, and air, giving us exposure in a variety of ways. This fact sheet will specifically talk about arsenic found in treated wood.

Many outdoor wood structures such as playgrounds and decks have been constructed of wood treated with copper chromated arsenate wood preservative (CCA). Wood was treated with CCA to prevent rotting. However, in response to consumer concerns, U.S. manufacturers of arsenical wood preservative began a voluntary transition from CCA to other wood preservatives for certain residential wood products. In 2002, the U.S. Environmental Protection Agency (EPA) reached an agreement with the manufacturers of wood preservative products containing CCA to cancel the registration of CCA for use in virtually all residential applications. As of December 31, 2003, it is illegal to treat dimensional lumber used in residential applications with CCA. However, wood treated prior to this date can still be used, and CCA-treated wood products continue to be used in industrial applications [ATSDR 2007]. There are sealants that can be used to reduce the leaching of arsenic from CCA-treated wood for up to twelve months of natural weathering [EPA 2007].

The photos below show a playground containing arsenic-preserved wood. The preservative often gives wood a greenish color. Current preservatives can also impart a green color to the wood, so it can be difficult to distinguish between CCA and non CCA treated wood. Because of this, consumers should check for the age of the wood they purchase. Treating all preserved wood with caution is the best way to avoid the possibility of chemical contamination.



It is not known whether, or to what extent, CCA-treated wood products may contribute to the exposure of people to arsenic [ATSDR 2007].

Children who play on wood structures treated with CCA have increased likelihood of dermal contact or ingestion of the arsenical through normal mouthing and play activities [ATSDR 2007]. Soil with high levels of arsenic is also a potential exposure risk for children due to pica or mouthing and play activities. Exposure from wood treated with arsenic would also be likely occurring through burning the wood in a poorly ventilated area or in large quantities, which would result in inhalation of arsenic vapors.

There are no regulations regarding arsenic body burden. Additionally, there may be some normal range of values depending on where one lives.¹

If someone suspects that they may have been affected by exposure to arsenic by these means, they should call their family physician for consultation or seek assistance from the following sources:

1) Indiana residents may also contact the Indiana Poison Center (1-800-222-1222), which is located at the Methodist Hospital in Indianapolis.

2) The Association of Occupational and Environmental Clinics (AOEC), that has a location in Chicago at the Stroger Hospital at Cook County (formerly Cook County Hospital). Services provided by the clinic include diagnosis and treatment of patients suffering from various occupational and environmental exposures to hazardous substances.

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There is also a website which contains more detailed information regarding the clinic and specialized services: <http://www.aoec.org>

**Parts of the information provided above taken from: Case Studies in Environmental Medicine, the Agency for Toxic Substances and Disease Registry (ATSDR); additional information is referenced as marked

¹ Chemistry Portal, 2006

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