Ontario College of Art and Design - Stan Krzyzanowski - Wood Studio

Health and Safety Bibliography

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Consumer Information Sheets: Inorganic Arsenical Pressure-Treated Wood

(Including CCA, ACA, and ACZA)

Consumer Information

- This wood has been preserved by pressure-treatment with an EPA-registered pesticide containing inorganic arsenic to protect it from insect attack and decay. Wood treated with inorganic arsenic should be used only where such protection is important.
- Inorganic arsenic penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to inorganic arsenic may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use or dispose of the treated wood.

Use site precautions

- Wood pressure-treated with waterborne arsenical preservatives may be used inside residences as long as all sawdust and construction debris are cleaned up and disposed of after construction.
- Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such sites would be structures or containers for storing silage or food.
- Do not use treated wood for cutting-boards or countertops.
- Only treated wood that is visibly clean and free of surface residue should be used for patios, decks and walkways.
- Do not use treated wood for construction of those portions of beehives which may come in contact with the honey.
- Treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

Handling precautions

- Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with state and Federal regulations.
- Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.
- When power-sawing and machining, wear goggles to protect eyes from flying particles.
- After working with the wood, and before eating, drinking, and use of tobacco products, wash exposed areas thoroughly.
- If preservatives or sawdust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

Approved by the U.S. Environmental Protection Agency, 8/87
Source: http://www.awpi.org/oaq-a.html

Toxic Woods

By Robert Woodcock, R.N., B.S.N., C.E.N.

WOOD	REACTION	SITE	POTENCY	SOURCE	INCIDENCE
Bald Cypress	S	R	+	D	R
Balsam Fir	S	E, S	+	LB	C
Beech	S, C	E, S, R	++	LB, D	C
Birch	S	R	++	W, D	C
Black Locust	I, N	E, S	+++	LB	C
Blackwood	S	E, S	++	D, W	C
Boxwood	S	E, S	++	D, W	C
Cashew	S	E, S	+	D, W	R
Cocobolo	I, S	E, S, R	+++	D, W	C
Dahoma	I	E, S	++	D, W	C
Ebony	I, S	E, S	++	D, W	C
Elm	I	E, S	+	D	R
Goncalo Aves	S	E, S	++	D, W	R
Greenheart (Surinam)	S	E, S	+++	D, W	C
Hemlock	C	R	?	D	U
Iroko	I, S, P	E, S, R	+++	D, W	C
Mahogany (Swietenia)	S, P	S, R	+	D	U
Mansonia	I, S,	E, S	+++	D, W	C
	N		+	D	
Maple (C. Corticale mold)	S, P	R	+++	D	C
Mimosa	N		?	LB	U
Myrtle	S	R	++	LB, D	C
Oak	S	E, S	++	LB, D	R
	C		?	D	U
Obeche	I, S	E, S, R	+++	D, W	C
Oleander	DT	N, C	++++	D, W,LB	C
Olivewood	I, S	E, S, R	+++	D, W	C
Opepe	S	R	-	D	R
Padauk	S	E, S, N	+	D, W	R
Pau Ferro	S	E, S	+	D, W	R
Peroba Rosa	I	R, N	++	D, W	U
Purpleheart		N	++	D, W	C
Quebracho	I	R, N	++	D, LB	C
	C		?	D	U
Redwood	S, P	R, E, S	++	D	R
	C		?	D	U
Rosewoods	I, S	R, E, S	++++	D, W	C
Satinwood	I	R, E, S	+++	D, W	C
Sassafras	S	R	+	D	R
	DT	N	+	D, W,LB	R
	C		?	D	U
Sequoia	I	R	+	D	R
Snakewood	I	R	++	D, W	R
Spruce	S	R	+	D, W	R
Walnut, Black	S	E, S	++	D, S	C
Wenge	S	R, E, S	++	D, W	C
Willow	S	R, N	+	D, W,LB	U
Western Red Cedar	S	R	+++	D, LB	C
Teak	S, P	E, S, R	++	D	C
Yew	I	E, S	++	D	C
	DT	N, C	++++	D, W	C
Zebrawood	S	E, S	++	D, W	

REACTION
I - irritant
S - sensitizer
C - nasopharyngeal cancer
P - pneumonitis, alveolitis (hypersensivity pneumonia)
DT - direct toxin

SITE
S - skin
E - eyes
R - resp.
C - cardiac
N - nausea, malaise

SOURCE
D - dust
W - wood LB-leaves, bark

INCIDENCE
R - rare
C - common
U - unknown

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ADT HAZARDS NEWS

OCAD Wood Shop

Use of Potentially Toxic Woods

Many exotic and some domestic woods are known as 'irritants' and cause allergic, toxic, infectious or respiratory reactions. Other woods and their dust are also known as 'sensitizers'. These materials may have a latency period of hours or months and may require repeated handling before reaction occurs. Sensitizers are considered more severe, because once you are sensitized, you are sensitized for life, and the reactions only get more dramatic. Although researchers point out that not everyone is sensitive to these woods, they warn that woodworkers in general, should be extremely cautious when sanding or milling them. This is particularly relevant in a shop atmosphere like ours, where we have many students working in the same shop and breathing the same air. You may be very cautious and protect yourself appropriately (ie gloves, respirator, etc.), but the person beside you, or across the room, may not be. Furthermore, students or staff with respiratory ailments, such as bronchial disorders and asthma or skin and eye allergies may be more susceptible to the woods natural oils or resins.

In an effort to provide our staff and students with a safe environment to work and learn, the use of any wood not regularly stocked by the College, will be closely monitored. Before any woods deemed potential risks are brought into the woodshop, the project must be proposed to a wood shop instructor, who in turn will approve/deny the project. Furthermore, quantities of potentially toxic woods used in the shop will be limited to "one (1) board foot". The continued use of these woods will be conditional on the fact that no one in the shop/College is adversely affected by the sanding or milling of said wood. If an adverse reaction is reported by a student or staff member, Ted Rickard (Health and Safety Manager) and Mark Jeffrey (Studio Manager), in consultation with the woodshop faculty will set forth appropriate guidelines for the use/non-use of the wood product in question.

There have been at least 45 types of wood identified as being 'toxic'. They range from the common Maple to the Rosewood family. Please refer to resource materials listed below for further information. If you have any questions or concerns, please don't hesitate to contact Mark Jeffrey (x362)or Ted Rickard (x615).

Resource Materials on Toxic Woods

Information regarding toxic woods are kept in a binder labeled "Toxic Woods and Toxic Wood Treatment" and can be found in the OCAD Wood Shop collection of reference materials.

As well, the Internet provides many sources of information. Links to some of these can be found on the OCAD Wood Shop Web page: http://www.student.ocad.on.ca/staff/woodshop/links/toxic.htm"

Some of these links include:

- Toxicity of Wood: http://www.city-net.com/albertfp/toxic.htm
- Wood Dust: Material Safety Data Sheet: http://www.columbuslumber.com/woodDust.html
- Toxic Woods: http://artsnet.heinz.cmu.edu:70/0/csa/arthazards/visualarts/woodchrt
- Potentially Toxic Woods: http://www.mimf.com/archives/toxic.htm
- Frequently-asked Questions About Treated Wood: http://www.awpi.org/oaq-a.html
- Wood Treatment: The Canadian perspective: http://www.ns.ec.gc.ca/epb/factsheets/wood.html

Toxicity of Wood

For centuries, it's been fairly common knowledge that some woods could hinder your health. As far back as 60 A.D., the Roman historian and naturalist Pliny the Elder described a case where four soldiers actually died after drinking wine from hip flasks made of yew. Of lesser gravity was the experience of a few German sawyers in the early 1700s. It seems they developed chronic irritation of the nose and eyes, as well as headaches, from sawing bald cypress.

What are your chances of a reaction to wood? Statistics say that only 2 to 5% of all people develop an allergic sensitivity to one or more compounds found in wood. But, if you handle a lot of potentially toxic species, and work with them long enough, you increase your chances of an allergic reaction. And, with sufficient exposure, some woods bother almost everyone.

Any dust, including wood dust, mildly irritates the sensitive mucous membranes of your nose and eyes, making you sneeze and tear. The dust of some woods such as western red cedar and rosewood can be especially bothersome. However, other woods, called **irritants**, can make you even more uncomfortable, with a rash that classifies as either irritant dermatitis or allergic dermatitis. The rash usually has a uniformly red, swollen area that may erupt in blisters, and typically first shows up on the webs of skin between your fingers. Irritant woods include black locust, cocobolo, ebony, oleander, satinwood, sequoia, and yew.

However, for you to get an allergic-type rash, you first must be allergy-prone to one of more of the chemicals found in certain woods called **sensitizers**. And, it may take repeated contact for your body to develop a great enough allergy for it to react (the so-called "latency period of as little as five days and up to 6-8months). If you do eventually get a reaction, the rash will look like poison ivy - red with small, individual, itchy bumps. Sensitzer woods include cypress, balsam fir, beech, birch, elm, greenheart, mahogany, maple, myrtle, redwood, sassafras, spruce, walnut, willow, western red cedar, and teak.

In addition to the actual wood dust, molds frequently trigger reactions, too. One that actually grows in wood happens to be extremely potent: *Cryptostroma corticale*. This mold lives happily between the bark and sapwood of many hardwood trees, especially favoring maple and birch. It's responsible for the marbleized spalting that woodturners prize, and for "maple bark stripper's disease," a condition with all the symptoms of a severe respiratory allergy.

If you have an aspirin allergy, be wary of willow and birch. Both of these species possess significant concentrations of salicylic acid (the predecessor of aspirin) and very sensitive individuals might only need casual exposure, such as a whiff of sawdust, to react.

Never say "no" to a dust mask. Among woodworkers, the chances of developing nasal and sinus cancer run about 5-40 times greater than non-woodworkers. Although researchers haven't identified the exact cancer-causing compound (primarily because the disease has a latency period from 30 to 50 years), some evidence points to dust from wood with high tannin content, such as chestnut, oak, redwood, western red cedar, and hemlock.

If you are sensitive to wood dust, work in a well ventilated area (this also reduces the risk to mold), avoid unseasoned wood as much as possible, and wash or shower frequently. If you develop persistent rashes or respiratory problems, contact your physician or dermatologist.

Source: http://www.city-net.com/albertfp/toxic.htm