Wood Allergies and Toxicity

by Eric Meier

> ***"Not to omit any one of them, the yew is similar to these other trees in general appearance . . . It is an ascertained fact that travellers' vessels, made in Gaul of this wood, for the purpose of holding wine, have caused the death of those who used them."***
>
> –Pliny the Elder, from *Naturalis Historia,* ca. 77 AD

Looking at the above quotation, (taken from a writing nearly two thousand years old), ought to bring—at the very least—a small bit of respect and attention to the matter of safety as it pertains to wood toxicity. If this subject has been known and reported as *"ascertained fact"* since ancient history, how much more ought we to take heed in modern times, considering that we have so many more well-developed means of communication and testing?

Wood Toxicity and Allergen Chart

Below you'll find a chart of various wood species, along with their reported effects and properties. The information on this chart has been compiled from many sources, with references given at the bottom. When viewing the chart, please keep the follow in mind:

Just because any given wood is not listed on the chart, *does not* mean that it is completely safe to use. It simply means that adverse reactions have not been reported as of yet. (The wood may be very obscure or unknown.) One helpful thing to do if you have confirmed that you're allergic to a specific species of wood, is to check for related species (listed at the end of each wood profile page). Many times, a wood in a particular genus will share similar allergic compounds with other related woods, resulting in cross-reactions.) For example, Cocobolo is in the Dalbergia genus, and is also closely related to other woods such as Kingwood, Tulipwood, Honduran Rosewood, etc. Also, you may notice two wood types that *sound* like they're related, such as Black Cherry (Prunus genus) and Brazilian Cherry (Hymenaea genus), but they are actually quite unrelated.

All inhaled wood dust is hazardous to your long-term health. This chart simply lists specific woods that can aggravate symptoms through allergic reactions, or woods that are outright toxic in and of themselves. However, *all* woods produce fine dust when worked, which in turn can damage your lungs and cause a number of other adverse health reactions. (This particular health issue—and the unhealthy buildup of such dusts in small woodworking or hobbyist shops—has been dealt with at length on Bill Pentz' website.)

A common question: is this wood safe to use as a plate/bowl/cutting board/etc.? Despite the very long list of woods below, very few woods are actually toxic in and of themselves. But what a great number of woods do have the potential to do is cause allergic reactions in sensitive individuals. This risk for finished wood projects is greatly lessened (but not eliminated) with the application of a food-safe finish. In the end, using almost any wood is a calculated risk, and the question boils down to this: how much of a potential risk am I comfortable with? 1 in 10? 1 in 1,000? 1 in 1,000,000?

Wood Species	Reaction	Area(s) Affected	Potency
Abura	irritant, nausea, giddiness, and vomiting		
African Blackwood	irritant, sensitizer		
Afrormosia	irritant, nervous system effects, asthma, splinters go septic		
Afzelia	irritant, sneezing		
Agba *(Gossweilerodendron balsamiferum)*	irritant		
Ailanthus	irritant		
Albizia	irritant, nausea, pink eye, giddiness, nose bleeds		
Alder (Alnus genus)	irritant		
Alligator Juniper	irritant		
Amboyna	irritant, asthma		
Andiroba	irritant, sneezing		
Angelim vermelho	unspecific allergic reactions		
Araracanga	irritant, asthma		
Ash (Fraxinus genus)	irritant		
Ash, alpine *(Eucalyptus delegatensis)*	irritant		
Ash, mountain	irritant		
Australian Blackwood	irritant, sensitizer, asthma		
Australian Cashew Nut *(Semecarpus australiensis)*	irritant, skin lesions, nosebleeds		
Avodire	irritant, nose bleeds, internal bleeding, asthma		
Balsa	irritant		
Bamboo	irritant		
Batai	irritant, sneezing		
Birch (Betula genus)	irritant, sensitizer, nausea		
Black Cherry	wheezing, giddiness		
Black Locust	irritant, nausea		
Blackbean	irritant		
Bloodwood	irritant, excessive thirst, salivation,		

	nausea		
Bloodwood, Red (Australian)	irritant		
Blue Gum	irritant		
Blue Mahoe	sneezing		
Bocote	cross reactions possible once sensitivity to other woods have developed		
Bosse	irritant, sensitizer, asthma, nausea, headache		
Box, Gray	irritant, rash		
Boxwood, Knysna *(Gonioma kamassi)*	irritant, headache, asthma		
Boxwood, European	irritant, sensitizer		
Brazilwood	irritant, headache, nausea, swelling skin, blisters		
Brigalow *(Acacia harpophylla)*	irritant		
Brownheart	irritant		
Bubinga	irritant, lesions		
Buckthorn	irritant, sap can cause dermatitis		
Bulletwood	irritant		
Camphor	irritant, asthma, headaches, giddiness		
Cashew *(Anacardium occidentale)*	irritant, blisters, sensitizer		
Catalpa	irritant		
Cedar, Alaskan Yellow	irritant		
Cedar, Aromatic Red	irritant		
Cedar, Atlantic White	irritant		
Cedar, Australian Red	irritant, asthma, migraine, giddiness, bronchitis, stomach cramps, NPC (rare)		
Cedar, Incense	irritant, rashes		
Cedar of Lebanon	irritant, asthma, runny nose, respiratory disorders		
Cedar, Northern White	irritant, asthma		
Cedar, Port Orford	irritant, runny nose, asthma, kidney problems (diuresis)		
Cedar, Spanish	irritant		
Cedar, Southern Red	irritant		
Cedar, Western Red	irritant, sensitizer, runny nose, asthma, nervous system effects, NPC		

	(rare)		
Chechen	irritant, sensitizer		
Chestnut, Chinese *(Castanea mollissima)*	irritant		
Chestnut, Sweet	irritant, sensitizer		
Chico Zapote	irritant (nasal)		
Chinaberry	irritant, headaches		
Cocobolo	irritant, sensitizer, nausea, asthma, pink eye		
Cocuswood	irritant		
Coolibah	irritant		
Copaia *(Jacaranda copaia)*	irritant		
Crow's Ash *(Flindersia australis)*	irritant		
Cuban Mahogany	irritant		
Cypress	sensitizer		
Cypress, Australian	irritant, asthma, swelling of eyelids, boils, NPC (rare)		
Cypress, Gowen	irritant		
Cypress, Leyland	irritant		
Cypress, Mediterranean	irritant, rashes, headaches		
Cypress, Mexican	irritant		
Cypress, Monterey	irritant		
Dahoma *(Piptadeniastrum africanum)*	irritant, sensitizer		
Dead Finish *(Acacia tetragonophylla)*	irritant, splinters go septic		
Douglas-fir	irritant, giddiness, runny nose, splinters go septic, nausea		
Ebony (Diospyros genus)	irritant, sensitizer, pink eye		
Ebony, Brown	irritant		
Ebony, Macassar	irritant, sensitizer		
Ekki	irritant		
Elm (Ulmus genus)	irritant, sensitizer, NPC (rare)		
European Beech	irritant, sensitizer, NPC (rare)		
Eyoum *(Dialium dinklagei)*	irritant		
Fir (Abies genus)	irritant		
Fir, Balsam	irritant		
Freijo	irritant, sensitizer, dryness/thirst		

Garapa	irritant		
Goncalo Alves	sensitizer		
Grasstree *(Xanthorrhoea spp.)*	irritant		
Greenheart	sensitizer, wheezing, severe throat irritation, splinters go septic, cardiac and intestinal disorders		
Guanacaste	irritant		
Gum, Lemon-Scented	irritant		
Gum, Spotted	irritant, rashes		
Gum, Yellow	irritant		
Hackberry	irritant		
Hemlock, Eastern	irritant		
Hemlock, Mountain	irritant		
Hemlock, Western	irritant, runny nose, NPC (rare)		
Hophornbeam	irritant		
Hornbeam (Carpinus genus)	irritant		
Idigbo	irritant		
Imbuia	irritant		
Indian Beech *(Pongamia pinnata)*	irritant		
Indian Laurel	irritant		
Ipe	irritant, headache, asthma, vision effects		
Iroko	irritant, sensitizer, asthma, boils, giddiness, HP		
Ironwood, Desert	irritant, sneezing, coughing		
Jarrah	irritant		
Jatoba	irritant		
Jelutong	irritant		
Juniper, Phoenician (*Juniperus phoenicea)*	irritant, headache, nausea		
Kahikatea *(Dacrycarpus dacrydioides)*	irritant		
Karri	irritant		
Katalox	irritant		
Keruing	irritant		
Kingwood	irritant, sensitizer, pink eye		
Koto	irritant		

Laburnum	constitutional effects (nausea, vomiting, headaches); direct toxin	N/A	
Lacewood	irritant		
Larch (Larix genus)	irritant, hives, lesions		
Leadwood (Combretum genus)	irritant		
Lebbeck	irritant		
Lignum Vitae	irritant		
Limba	irritant, hives, splinters go septic, asthma, bleeding of the nose and gums		
Machiche	irritant		
Magnolia (Magnolia genus)	asthma, runny nose		
Mahogany, African	irritant, sensitizer, NPC (rare)		
Mahogany, Honduran	irritant, sensitizer, boils, nausea, giddiness, asthma, HP		
Mahogany, Santos	irritant		
Makore	irritant, nausea, headache, giddiness, nervous system and blood effects		
Mango	irritant		
Mansonia	irritant, sensitizer, nausea, sneezing, headaches, nosebleeds, splinters go septic, asthma, giddiness, cardiac disorders		
Maple (Acer genus)	irritant, sensitizer, asthma; HP in spalted maple		
Maple, Queensland	irritant		
Meranti (Shorea genus)	irritant		
Merbau	irritant		
Mesquite (Prosopis genus)	irritant		
Messmate	irritant, asthma		
Milky Mangrove *(Excoecaria agallocha)*	sap is poisonous, causes irritation to eyes and/or temporary blindness, headache, burning of throat, blistering of skin		
Mimosa	irritant		
Moabi	irritant (mucous membranes)		
Molopangady *(Breonia madagascariensis)*	irritant, sores		
Monkeypod	irritant		
Mora	irritant		

Movingui	irritant		
Muhuhu *(Brachylaena hutchinsii)*	irritant		
Mulga	irritant, headache, nausea, lesions, wood contains a virulent poisonous principle used for spear heads by aboriginals		
Muninga	irritant, asthma, bronchitis		
Myrtle	irritant, sensitizer		
Myrtle, Tasmanian	irritant		
Narra	irritant, asthma		
Norway Spruce	irritant, asthma		
Nyatoh	irritant		
Oak (Quercus genus)	irritant, sensitizer, asthma, NPC (rare)		
Obeche	irritant, sensitizer, runny nose, sneezing, hives, asthma		
Okoume	irritant, cough, asthma, pink eye		
Oleander *(Nerium oleander)*	irritant, nearly every part of the plant is toxic, cardiac effects		
Olive	irritant, sensitizer		
Opepe	irritant, sensitizer, nervous system effects		
Osage Orange	irritant, sap can cause dermatitis		
Osage Orange, Argentine	irritant, sap can cause dermatitis		
Padauk (Pterocarpus genus)	irritant, sensitizer, nausea, asthma		
Palm *(Arecaceae family)*	irritant, constitutional effects		
Parinari *(Parinari spp.)*	irritant		
Partridgewood	irritant, hives, coughing		
Pau Ferro	irritant, sensitizer		
Pau Marfim *(Balfourodendron riedelianum)*	irritant		
Pau Rosa	irritant		
Pau Santo	irritant		
Peroba Rosa	irritant, sensitizer, nausea, asthma		
Persimmon	irritant		
Pheasantwood	cavities in the wood can contain powder that is an irritant, skin discoloration		
Pine (Pinus genus)	irritant, runny nose, asthma		

Pine, Huon	irritant		
Pistachio	irritant		
Poison Walnut (Cryptocarya pleurosperma)	bark irritating to skin, dust may cause asthma, nausea, giddiness, sap is toxic and corrosive		
Poplar	irritant, blisters, asthma, bronchitis		
Primavera	irritant, sensitizer		
Purpleheart	irritant, sensitizer, nausea		
Quebracho	irritant, nausea, NPC (rare)		
Quina	irritant		
Ramin	irritant, splinters go septic, asthma		
Redwood	irritant, sensitizer, asthma, HP, NPC (rare)		
Rengas	sap is strongly irritating, blisters, ulcers, fever, constitutional effects		
Rhodesian Teak	irritant		
Rose Butternut *(Blepharocarya involucrigera)*	irritant, pink eye		
Rosewood (Dalbergia genus)	irritant, sensitizer, asthma		
Rosewood, Brazilian	irritant, sensitizer		
Rosewood, East Indian	irritant, sensitizer		
Rosewood, Siamese	irritant, rash, hives, sensitizer		
Rubberwood	irritant, sensitizer (latex allergy)		
Saffron-Heart *(Halfordia scleroxyloa)*	irritant, splinters go septic, lung congestion		
Santa Maria *(Calophyllum brasiliense)*	irritant, fainting, insomnia, kidney damage		
Sassafras	sensitizer, nausea, respiratory, direct toxin, NPC (rare)		
Sapele	irritant, sneezing		
Satinwood, East Indian	irritant, headache, diarrhea, sensitizer		
Satinwood, West Indian	irritant, diarrhea, rash, blisters, sensitizer		
Shittim *(Acacia seyal)*	irritant, coughing		
Silky Oak, Northern	irritant		
Silky Oak, Southern	irritant, sap may cause blistering of skin, eyelid inflammation		
Simarouba *(Simarouba amara)*	irritant		
Sissoo	irritant		

Slash Pine	irritant, asthma		
Snakewood	irritant		
Sneezewood	irritant, oils within the wood cause violent sneezing		
Spruce (Picea genus)	irritant, sensitizer		
Sucupira *(Bowdichia nitida)*	irritant		
Sugi	unspecified allergic reactions		
Sumac (Rhus spp.)	irritant, bark may cause blisters		
Sweetgum	irritant		
Tali *(Erythrophleum suaveolens)*	irritant, headache, giddiness, nausea, disorders of bowels and stomach		
Tambootie	irritant, diarrhea, blindness, direct toxin		
Tatajuba	irritant		
Teak	irritant, sensitizer, rash, nausea, asthma, vision effects, pink eye, HP		
Thuya	irritant		
Tiama *(Entandrophragma angolense)*	irritant		
Turpentine	irritant, swelling		
Tzalam	cold-like symptoms		
Utile	irritant		
Verawood	sneezing		
Walnut, African	irritant, systemic effects, NPC (rare)		
Walnut, Black	irritant, sensitizer, NPC (rare)		
Walnut, English	irritant, NPC (rare)		
Wamara	irritant		
Wenge	irritant, sensitizer, splinters go septic, nervous system effects, abdominal cramps		
Western Hemlock	irritant, NPC (rare)		
Western Juniper (*Juniperus occidentalis)*	irritant		
White Peroba *(Paratecoma peroba)*	irritant, sensitizer, asthma		
Willow (Salix spp.)	sensitizer, nausea, NPC (rare)		
Yew (Taxus spp.)	irritant, nausea, headache, cardiac effects, direct toxin		
Yellowheart	irritant		

Zebrawood	sensitizer		
Ziricote	cross reactions possible once sensitivity to other woods have developed		
Zitan	irritant, vomiting		

References:

- *Woods Toxic to Man*, author unknown
- Woods, B., Calnan, C.D., *Toxic Woods*, Br. Journal of Dermatology, 1976
- *ILO Encyclopedia of Occupational Health and Safety* 1983
- Lame, K., McAnn, MEDIUM., *AMA Handbook of Poisonous and Injurious Plants*, AMA 1985
- *Poisondex*, Micromedix Inc. 1990
- *List of woods and toxicity characteristics*, Roy Banner, 1989
- *Toxic Woods Information Sheet*, (Woodworking sheet #30), Health and Safety Executive, UK
- Campbell, Bruce, *Wood/Dust Toxicity*, 2006
- Ellis, Neil, *Health Hazards & Wood*, 1998
- Mitchell, John, and Arthur Rook, Botanical Dermatology, 1979
- Pentz, Bill, *Medical Risks*, 2008
- *Timbers & Health*, Woodturners Society of Queensland, Inc.
- Chudnoff, Martin, *Tropical Timbers of the World*, Forest Products Laboratory, 1980
- Kukachka, Francis, *Properties of Imported Tropical Woods*, Forest Products Laboratory, 1969
- Sims, Michael, and Erica Skadsen, Wood Hazards, BMEzine.com LLC, 2006
- Forest Products Laboratory, United States Department of Agriculture

What is a Sensitizer?

You've probably already heard the term *desensitized*—usually in reference to violent movies or images—meaning that we start off as naturally being sensitive to something, and upon more and frequent exposure, we become less and less sensitive to its effects.

Well, with some woods that have been classified as being a *sensitizer*, the opposite is true: the more we are exposed to a wood's sawdust or other fine particles, the more sensitive we get to its exposure, and the more severe and adverse the reactions become.

If you ever have an allergic reaction to any wood that has been identified as a sensitizer, use extreme caution in handling or using that species (and related species) in future instances. Some have reactions so severe that they simply have had to stop and discontinue using certain wood species altogether. (Cocobolo is notorious in this regard.)

What is HP?

Hypersensitivity pneumonitis (also called extrinsic allergic alveolitis, EAA) is an inflammation of the alveoli within the lung caused by hypersensitivity to inhaled organic dusts. HP on PubMedHealth.

What is NPC?

Nasopharyngeal carcinoma, or sometimes called nasopharyngeal cancer. Basically, it is a cancer of the upper area of the pharynx or "throat," where the nasal passages and auditory tubes join the remainder of the upper respiratory tract. NPC on MayoClinic.com.