PRESSURE TREATED WOOD PRECAUTIONS

A Public Service of the Churchill Area Environmental Council
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Should We Be Concerned About Pressure Treated Wood?

Introduction

Wood is most often the construction material chosen by people for use in outdoor building projects. Often it is because the wood looks "natural" in backyards, gardens, and playgrounds that it is selected to make picnic tables, decks, raised beds, fences, and retaining walls. However, when wood is subject to year-round exposure to the elements it will eventually rot, attracting insects and fungi. Therefore, wood used in outdoor construction projects is more likely to be treated to make it resistant to natural deterioration, enhance its durability, and increase its life expectancy.

Types of Treated Wood

Three different types of preservatives are used for treating wood. The one used depends upon how the treated wood will be put to use. Creosote, a coal-tar derivative, is used primarily in railroad ties and pilings. Pentachlorophenol (penta) is used mainly for utility poles. *Copper chromated arsenate* (CCA) is a water-borne solution mostly used on wood to be made into fences, playground equipment, animal enclosures, and decking. CCA, the most commonly used arsenical preservative, is a chemical compound consisting of three elements – chromium, copper, and arsenic – registered for use as a wood preservative. CCA is also referred to as an inorganic arsenical and is classified as a pesticide. It is also commonly referred to as "Wolmanized" wood.

Unlike creosote and penta, CCA is supposed to be safe in part because the toxins are trapped inside the wood during pressure treatment, rather than applied on the surface only. In pressure treatment the chemical preservatives are forced deep into wood in a closed cylinder under pressure.

The least expensive, and most widely used, pressure treated lumber is southern yellow pine. If left untreated, southern yellow pine would deteriorate within three to five years. When pressure treated, the wood lasts 30 to 40 years.

Suitable Uses

Many uses exist for pressure treated lumber including outdoor furniture, picnic tables, raised gardening beds, patios, decks, walkways, walkway steps, and playgrounds. Wood used for these types of uses should be certified by the American Wood Preservers Bureau as "Foundation" grade. This has been redried after treatment which assures chemicals are fixed in the wood. The wood should be free of surface residue (salt deposits). Any wood used in railings or playgrounds should be treated with a water repellant or wood sealer periodically to reduce cracking and splitting which might cause splinters.

There is a difference of opinion regarding the use of treated wood in raised garden beds. Organic Gardening does not recommend it. A study "Using Treated Wood Around the Garden" by Michael A Kamrin of the Center for Environmental Toxicology at Michigan State University showed that some chemicals can leach into the soil and plant roots that are within 6" of treated wood and could have slightly higher levels of copper and arsenic. He stated that although barriers are not really necessary, the inside of the wood can be lined with heavy duty plastic or coated with an appropriate sealer to provide extra protection. The American Wood Preservers Bureau says that no precautions are necessary.

Treated wood should never be used in any kind of food storage, chopping boards or counter tops, animal feed bins or beehives.

Alternatives

⇒ Plastic Lumber - Aeolian Enterprises of Latrobe (724) 539-9460 makes hollow plastic lumber from the scrap plastic after milk and oil bottles are made. It has been used for fencing, decking, docking, sheds, picnic tables and dog houses – anything that can be built outside (it may not conform with building codes for interior use). A 6x6 post for a 3 rail fence is $15.80, 16' rails are $16.80 each. These prices are competitive with wooden lumber but smaller sizes are double in cost. This white plastic lumber will never rot or splinter, is insect resistant and never has to be painted. There are no chemicals to leach into ground water. It is 100% recyclable and can be made into more lumber.

⇒ Durable wood like cedar, douglas fir, and redwood. Cedar costs about 20%-30% more than treated wood. Redwood is the most expensive.
⇒ Concrete footings or metal posts can be used as in-ground support structures in place of wooden posts.
⇒ Painting the exposed surface of untreated wood with water based latex product.
⇒ Trex - a blend of sawdust and recycled plastic accepts paint or stain. 2x4s cost $1 per foot.

Precautions, Cleanup, and Disposal of Pressure Treated Wood

Several precautions should be taken when working with and in cleanup and disposal of pressure treated wood.

⇒ Select pressure treated wood that is acceptable for the intended use and use only in accordance with the manufacturer's instructions. For instance, oil-based preservatives can be used for exterior, below ground applications, but not where contact with humans, animals, food, or drinking water occurs. CCA pressure treated wood is relatively safe for use where there will be human contact, but not for counter tops or cutting boards or in areas that may come in contact with food or food stock or bee hives. Always follow the manufacturer's warnings and ask for Material Safety Data Sheets and consumer information sheets at your local lumber yard.
⇒ When working with pressure treated lumber, wear long-sleeved shirts, long pants, and gloves impervious to the chemicals. Wear a dust mask when sawing, machining, and sanding. Always wear goggles for protection when sawing any type of wood or material. Work outdoors, where possible, to avoid indoor accumulation of sawdust.
⇒ If using self-applied preservatives, use only where necessary in a well ventilated area (or wear a proper respirator if ventilation is not adequate). Clean up spills immediately with disposable absorbent material, safely disposing of the absorbent materials. Purchase only enough for the intended job to avoid storage. If storage is necessary, store in a locked location out of reach and view of children and pets.
⇒ Wash clothes with sawdust accumulation separately from other household clothes. Wash exposed body areas with soap and water after working with pressure treated wood,especially before eating and drinking.
⇒ Dispose of treated wood by ordinary trash collection or burial. Do NOT burn in open fires, stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes.

Summary/Conclusions

The U.S. Environmental Protection Agency suggests that when consumers work with treated wood they follow the precautions listed above.

Those with concerns about using treated wood may want to consider using the heartwood of cedar or redwood for their wood projects. Or treat less expensive wood, like pine, with linseed oil to make it last longer. To prevent wood from contact with plants or plant roots, the inside of wood boxes could be lined with an impermeable material.

References

U.S. Environmental Protection Agency (www.epa.gov)
American Wood Preservers Institute Hotline: (800) 356-AWPI
"Using Treated Wood Around the Garden" by Michael A Kamrin of the Center for Environmental Toxicology at Michigan State University
Organic Gardening, February 1998