

Managing Treated Wood Waste

Wood products such as utility poles, railroad ties, and lumber for outdoor exposures are treated with chemical preservatives that create a barrier against insect attack and decay. These wood products can contain toxic constituents in sufficient concentrations to constitute a threat to public health and the environment if improperly reused, or cause the products to be regulated as hazardous waste when discarded. This Fact Sheet is intended to describe best management practices for treated wood reuse and allowable disposal options. As described below, treated wood waste disposal by businesses may be subject to regulation as a hazardous waste.

Wood preservatives fall into three broad categories which, in turn, dictate how the treated wood should be managed when removed from its original use. The categories are:

Water-borne preservatives: The most common water-borne preservatives used to treat wood include *Chromated Copper Arsenate (CCA)*, *Ammoniacal Copper Quat (ACQ)*, *Ammoniacal Copper Zinc Arsenate (ACZA)*, as well as the less-toxic, inorganic borate compounds. Wood treated with waterborne preservatives is used in a variety of outdoor residential, commercial, and industrial products and applications, such as decking and walkways, fences, gazebos, docks, playground equipment, highway noise barriers, utility poles and retaining walls. CCA treated wood is no longer available for residential use.

Creosote-treated wood: Wood treated with creosote is used mainly for bridge timbers, railroad ties, retaining walls, and docks.

Oil-borne preservatives: Common varieties of oil-borne preservatives include chlorophenolic compounds, e.g., pentachlorophenol, or “penta,” and copper naphthenate. “Penta” is the most widely used oil-borne preservative, used to preserve utility poles and cross arms, railroad ties, and fence posts. Neither penta-containing products nor wood treated with penta are available for residential use.

As a general rule, treated wood is easy to recognize. Wood that is treated with creosote or chlorophenolic compounds tends to be dark in color and has a “chemical” or “smoky” odor. Wood that is treated with water-borne inorganic preservatives can usually be identified by a characteristic “greenish” color.

How can treated wood be reused?

The Waste Management and Prevention Division (WMPD) does not consider wood treated with water-borne preservatives or creosote to be waste when reused appropriately, i.e., reused in a manner that does not pose an increased risk to human health or the environment. In general, “appropriate reuse” of these types of treated woods does not increase the amount of surface

area available to leaching, involve placement in or near environmentally sensitive areas, or involve combustion of any type. Some examples of appropriate reuses include:

- ✓ use as support beams in open-air construction; and
- ✓ use for general landscaping in areas that are not in the vicinity of food crops (e.g., terracing, fencing, property line demarcation).

Because of the greater toxicity of the preservative, and increased potential for environmental harm if misused, the WMPD discourages the reuse of chlorophenolic treated wood, except by the original owner. If these products are considered for reuse, the WMPD strongly recommends that the original owner provide the recipient with this Fact Sheet, and obtain a signed consent form indicating that the recipient understands the risk associated with the product, best management practices for the product's reuse, and end-of-life disposal options.

How can treated wood waste be disposed of when it is not reused?

Household-generated waste is categorically exempt from regulation as hazardous waste; therefore, treated wood waste generated from a household may be disposed of at a lined, solid waste landfill.

Business-generated treated wood waste that is not reused by the original owner, must be evaluated to determine if it is hazardous waste. Waste that is determined to be hazardous must be managed in accordance with the Vermont Hazardous Waste Management Regulations. The owner or operator of a business can determine whether or not treated wood is hazardous waste based on either "generator knowledge" about the wood, or laboratory analysis.

Treated wood waste is considered hazardous waste when certain contaminants are present at or above specified limits. The test method used to make this determination (when the determination is not based on "generator knowledge") is the Toxicity Characteristic Leaching Procedure, or TCLP. The regulatory levels for the contaminants generally associated with treated wood are specified in the following chart:

Types of Treated Wood / Distinguishing Characteristics	Hazardous Waste Number	Contaminant	Regulatory Level (mg/L)
Inorganic Preservatives: "greenish" in color.	D004	Arsenic	5.0
	D007	Chromium	5.0
Creosote Formulation: brown to dark brown in color; may be coated with tar; has a "smoky", chemical odor.	D023	o-Cresol	200.0 ¹
	D024	m-Cresol	200.0 ¹
	D025	p-Cresol	200.0 ¹
	D026	Cresol	200.0 ¹
Chlorophenolic Formulations: Similar characteristics to creosote.	D037	Pentachlorophenol	100.0

¹ If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200.0 mg/l.

Treated wood that is not subject to regulation as a hazardous waste, i.e., treated wood from businesses that does not exhibit the toxicity characteristic and is therefore non-hazardous, may be disposed of in certified, lined landfills. (Analogous to household-generated treated wood.) Treated wood should not be shredded or ground prior to disposal.

Note that treated wood (hazardous waste or not) cannot be burned for either energy recovery or disposal unless it is burned in a device that has been permitted by the Agency for that purpose.

For Addition Information About...

...burning wastes, contact the **Air Pollution Control Division** at (802) 828-1288.

...this fact sheet, or other solid or hazardous waste management issues, contact the **Waste Management And Prevention Division** at (802) 828-1138, or visit the Division web site
<http://www.anr.state.vt.us/dec/wastediv/index.htm>

...reducing the amount, and the toxicity, of waste produced, contact Vermont's non-regulatory **Environmental Assistance Office** toll-free (in Vermont) at 1-800-974-9559.