

Wood Preserving

530SW90027F

Industry Overview

Not all wood preserving operations produce hazardous waste. If, however, you use arsenical compounds, pentachlorophenol, or creosote, you are probably subject to Resource Conservation and Recovery Act (RCRA) requirements covering the generation, transportation, and management of hazardous waste.

Wood preservation involves two general steps: pretreatment (reducing the moisture content of the wood) and preservation (permeating the wood with a preserving agent). A typical wood preserving operation uses any of the following processes: steaming, inorganic salt treatment, boultonizing, or kiln or air drying utilizing one or more of the three principal wood preserving agents:

- Creosote
- Pentachlorophenol (PCP)
- Inorganic arsenical compounds (CCA - Chromated Copper Arsenate or ACA - Ammoniacal Copper Arsenate).

Hazardous Wastes from Wood Preserving

The wastewater treatment sludge generated from wood preserving processes that use creosote and/or pentachlorophenol is listed by EPA as a hazardous waste. EPA might list additional wood preserving wastes in the future. Waste from using inorganic arsenicals is frequently a hazardous waste if it contains either chromium or arsenic at levels high enough to fail the Toxicity Characteristic Leaching Procedure (TCLP). Other wastes from wood preserving operations might fail the TCLP test if they contain high levels of creosols, phenol, or pentachlorophenol.

Table 1 lists general operations/processes that use hazardous materials and that might generate hazardous waste. If you generate 100 kilograms (220 pounds or about half of a 55-gallon drum) or more of hazardous waste per month, you must fill out a Uniform Hazardous Waste Manifest when you ship the hazardous waste off your property. The Manifest requires the proper Department of Transportation (DOT) description for each waste. Table 2 lists proper DOT shipping descriptions for a number of wastes that might be generated during wood preserving. Table 1 and Table 2 are not comprehensive lists. If you suspect you generate other hazardous wastes, contact your state hazardous waste management agency or EPA Regional office for assistance.

Waste Minimization

An effective waste minimization program can reduce the costs, liabilities, and regulatory burdens of hazardous waste

management, while potentially enhancing efficiency, product quality, and community relations. Waste minimization techniques that can help you reduce the amount of hazardous waste that you generate include:

- Production planning and sequencing
- Process/equipment adjustment or modification
- Raw material substitution
- Loss prevention and housekeeping
- Waste segregation and separation
- Recycling.

Training and supervision of employees implementing waste minimization techniques is an important part of your successful program. Call the RCRA/Superfund Hotline toll-free at 800-424-9346 (or TDD 800-553-7672 for the hearing-impaired) for waste minimization information and publications.

Table 1
Typical Wood Preserving Operations:
Materials Used and Hazardous Wastes that Might be Generated

Process/Operation	Materials Used	Typical Material Ingredient	General Types of Waste Generated
Steam Preconditioning	Organic solvents, preservatives	Pentachlorophenol, xylol, stoddard solvent, arsenic, creosote	Wastewater treatment sludges Toxic heavy metal wastes Solvent wastes Toxic organic wastes
Boulton Preconditioning	Preservatives	Pentachlorophenol, arsenic, creosote	Wastewater treatment sludges Toxic heavy metal wastes Toxic organic wastes
Inorganic Salt Treatment	Inorganic salts, preservatives	Arsenic, borates, ammonium compounds	Wastewater treatment sludges Toxic heavy metal wastes
Non-pressure Treatment Preservation (with air or kiln drying)	Preservatives	Arsenic, chromium, chromated copper arsenate (CCA), creosote	Toxic heavy metal wastes Toxic organic wastes

Table 2
Wood Preserving Waste Descriptions¹

Waste Type	Designations/Trade Names	DOT Shipping Name	Hazard Class	UN/NA ID Number
WOOD PRESERVING WASTES CONTAINING:				
Cresosote		Hazardous Waste, Liquid or Solid, NOS ²	ORM-E	NA9189
Cresols*		Waste Cresol	Corrosive Material	UN2076
Pentachlorophenol*		Waste Pentachlorophenol, Liquid or Solid	ORM-E	NA2020
Chromated Copper Arsenate		Waste Arsenical Compounds, Solids	Poison B	UN1557
		Waste Arsenical Compounds, Liquids	Poison B	UN1556
Ammoniacal Copper Arsenate		Waste Arsenical Compounds, Solids	Poison B	UN1557
		Waste Arsenical Compounds, Liquids	Poison B	UN1556
Other Wood Preserving Wastes		Hazardous Waste, Liquid or Solid, NOS	ORM-E	NA9189

* Toxicity Characteristic constituent. Any waste that results in a TCLP extract containing a Toxicity Characteristic constituent equal to or above regulatory levels is hazardous.

1 These descriptions may change given variations in waste characteristics and conditions. Note that the DOT shipping name, hazard class, and UN/NA ID number do not directly correspond to RCRA hazardous waste categories.

2 NOS -- Not otherwise specified.

For further information call the RCRA/Superfund Hotline 1-800-424-9346