Newfoundland Labrador

Department of Environment and Conservation
Pollution Prevention Division

Guidance Document

Title: Treated Wood Waste Disposal

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Approved By:

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SUBJECT

Disposal of treated wood waste (TWW).

OBJECTIVE

To define the appropriate disposal methods for TWW. This is accomplished by assessing the potential leachability of chemical substances from selected treated wood types: Chromated Copper Arsenates (CCA), Creosote, or Pentachlorophenol prior to disposal.

BACKGROUND

Wood is treated with preserving chemicals for the protection of the wood from insect attack and fungal decay during its use. These chemicals may pose a risk to human health and the environment, and may result in TWW being considered a waste dangerous good/hazardous waste (WDG/HW). TWW commonly results when treated wood has been removed from service. Examples of TWW include: railway ties, utility poles, penstocks, wharf cribbing, etc.

As a general rule, treated wood is easy to recognize. Wood that is treated with creosote or chlorophenolic formulations tends to be dark in colour and has a "chemical" or "smoky" odour. Wood that is "pressure treated" with inorganic preservatives can usually be identified by a characteristic "greenish" colour.

Depending on the wood treatment method used, arsenic, chromium, cresols (constituents of creosote), or chlorophenols (e.g. pentachlorophenol) may be present in concentrations high enough to exceed regulatory limits for disposal. Information on the general management of treated wood is attached in Appendix A.

Note: The removal of TWW should be done in a manner that reduces impact on the environment by minimizing disturbance to the surrounding environment. enter text.

DEFINITIONS

TCLP: A U.S. EPA Toxicity Characteristic Leaching Procedure (TCLP), Test Method 1311 (as amended), used to determine the leachate toxicity hazard. The TCLP is a standard designed to determine the mobility of both organic and inorganic analytes present in wastes.

TWW: Treated wood no longer intended for original use and containing various preservatives.

Waste Dangerous Goods/Hazardous Waste (WDG/HW): Corrosive, reactive, flammable, ignitable, carcinogenic, teratogenic, mutagenic, infectious, oxidizing, radioactive, explosive, poisonous/toxic (acute and chronic), bioaccumulative, persistent, TCLP defined leachable, or any waste which does not meet any of the above criteria but has other properties of concern which are significant enough to consider the material to be hazardous

LEGISLATION

Activities associated with TWW disposal may involve, but are not necessarily limited to, the following:

Provincial Legislation

Environmental Protection Act SNL 2002 E.14.2 (Part VIII)

Leachable Toxic Waste (GD-PPD-026)

GENERAL

TWW generated by commercial operators shall be evaluated by the operator to determine if it meets the definition of WDG/HW. This requirement is intended for relatively large quantities of TWW from commercial sources, generally greater than 1000 kg.

TWW is considered WDG/HW when certain contaminants are present at or above specified limits. Where an operator has demonstrated through repeated testing that results are consistently below limits, they may request and the Department may approve a reduction in the frequency of testing for that specific product

Note: These guidelines do not apply to household/residential generators of TWW. TWW from residences is normally permitted to go to a landfill without testing. However where large quantities (> 1000kg) of treated wood have been used for retaining walls or other applications on properties, the Department may require testing before disposal.

TESTING

- Collect at least one composite sample (consisting of at least 6 representative samples) of the TWW type with the same preservative and similar age

- The accredited laboratory should be contacted to ensure proper samples sizes of the wood are collected, bagged/bottled.

- Testing for specific parameters will depend on the preservative used.

- Workers involved in collecting samples shall ensure safety precautions are taken when collecting samples

REPORTING

All lab and summary reports shall be forwarded to the Department in a summary report. An outline of a standard report is provided below. The report shall not exceed 2 pages:

- *background information (location , type of wood and owner of TWW)*
- *attach a copy of the lab report*
- *project information (several paragraphs is sufficient)*
- *TWW sampling protocol and summary of analytical results*
- *Provide a photo of site, material to be disposed*

A copy of the report shall be forwarded to the email or address below. The Department will review and provide a response (email) to the proponent.

joanhann@gov.nl.ca or

Director, Pollution Prevention Division, Department of Environment and Conservation

P.O. Box 8700, St, John's, NL, A1B 4J6

Telephone: (709) 729-2556; Facsimile: (709) 729-6969

DISPOSAL

- The TTW is analyzed for the appropriate preservative and the results compared to Column 1 of Table 1. Where the result is less than the limit the TWW can go to landfill. Where the results exceed the limit in Column 1 further tested using the Toxicity Characteristic Leaching Procedure, or TCLP is required. The limit for the TCLP test is listed in Column 2 of Table 1. The proponent may choose to go directly to the TCLP test

- If the results do not exceed Column 2, Table 1, the TWW may be disposed into the regular tipping face of an approved landfill with the approval of Service NL.

- If the results exceed Column 2 and are below Column 3 as per the limits outlined in Table 1, the Department may approve disposal to a special area of a lined landfill (a non-disruptive section). Consultation is required with the Department. It is recommended that TWW be cut to reasonable lengths (3 foot lengths) prior to disposal.

- The Department reserves the right to require disposal of TWW out of the province if results exceed criteria outlined in Column 2.

- For results exceeding standards as per Table 1, in remote areas, consultation is required with the Department.

Treated wood chemicals have been, and continue to be evaluated by the following organizations, which provide valuable information with regards to human health and environmental concerns surrounding treated wood: Environment Canada, Health Canada, Pest Management Regulatory Agency, US Environmental Protection Agency, World Health Organization and others

Table 1

Landfill Disposal Standards for TWW

Type of Treated Wood	WDG/Hazardous Waste Number and Contaminant	Column 1: CCME-CSQG- mg/kg	Column 2:TCLP : (mg/l) (CEPA)	Column 3 (doubleTCLP limits)
Inorganic Preservatives:	*L4 - Arsenic*	**26.0**	**2.5**	**5.0**
	L10-Chromium (total)	**87.0**	**5.0**	**10.0**
Creosote Formulation	*L-46 -m-cresol, L-47- o-cresol, L-48 - p-cresol and total cresol**	TCLP required for total cresols	**200.0***	400
	L37 Benzo(a)pyrene	72.0	**0.001**	0.002
Chlorophenolic Formulation	*L84-Pentachlorophenol*	**28.0**	**6.00**	**12.0**

*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.

References

Department of Environmental Conservation, Waste Management Division, Waterbury VT (July 2003), Environmental Factsheet, available online at: http://www.anr.state.vt.us/dec/dec.htm

APPENDIX A

General Management of Treated Wood Waste

- Do not use any type of treated wood where the wood would come into direct or indirect contact with drinking water supplies.

- Pentachlorophenol and creosote-treated wood are not recommended for structural uses inside homes, on decks, in playground equipment, or in areas where wood will come in contact with drinking water for domestic animals and livestock. Wherever possible, consider alternatives to treated wood.

- Do not use CCA, ACZA, penta- or creosote-treated wood in circumstances where the preservative may come into contact with human or animal food, with beehives, or for cutting boards or countertops. Handle treated wood safely by cutting it outdoors. Wear a dust mask, gloves and safety glasses, and use only treated wood that is free of visible residue. After working with treated wood, wash clothing and areas of exposed skin thoroughly.

- Use the smallest amount of treated wood necessary, and make as few cuts as necessary toreduce the amount of wood waste.

- Do NOT burn treated wood.

- Do NOT recycle treated wood for use as fill material, or by grinding it and applying it to soil as a soil amendment, as compost or as mulch.

Water Resources Management Policies at the following two links outline this Department's policy with respect to the use of treated poles and wood near or in bodies of water:

http://www.env.gov.nl.ca/env/waterres/regulations/policies/utility_poles.html

http://www.env.gov.nl.ca/env/waterres/regulations/policies/creosote_wood.html