

Hazardous Waste/Toxics Use Reduction

Guidance Title: Guidance on Performing a Hazardous Waste Determination on an Oily Waste

Guidance Number: 2004-PO-001

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What is the purpose of this guidance?

The purpose of this guidance is to provide recommendations for performing hazardous waste determinations on oily wastes.

The intent of this guidance is to assist DEQ employees and hazardous waste generators who dispose of oily wastes. This document does not constitute rulemaking by the Oregon Environmental Quality Commission, and no person may interpret this guidance to create a right or benefit, substantive or procedural, enforceable by law or in equity.

To whom does this guidance apply?

This guidance applies to persons responsible for performing hazardous waste determinations on oily wastes. Wastes addressed under this policy can include oily sludges, viscous organic wastes, and viscous inorganic materials such as latex paint.

Why is this guidance needed?

The Toxicity Characteristic Leaching Procedure (TCLP) is not the best test for oily wastes when determining if a solid waste exhibits a toxic hazardous waste characteristic. The TCLP method can make it difficult to determine if oily wastes exhibit a hazardous waste toxicity characteristic.

Discussion

40 CFR 261.24¹ requires generators to use Environmental Protection Agency (EPA) TCLP Method 1311 without deviation when evaluating a solid waste for toxicity hazardous waste characteristic. The purpose of the TCLP method is to replicate the conditions of a municipal solid waste landfill to evaluate the potential leachability of a waste.

EPA acknowledges that the TCLP method is not appropriate for oily and organic wastes for the following reasons:

- **Viscous wastes can plug filters during the TCLP procedure.**

Some wastes, such as oily and paint wastes, contain some seemingly liquid material. These viscous, solid wastes can plug filters before filtering all apparent liquids. Method 1311 requires that the waste fraction retained in the filter be evaluated as a solid even if it contains both apparent liquids and solids. The oily fraction can interfere with obtaining an accurate leaching test on the solid fraction.

- **Oily waste extracts and filtrates are difficult to analyze.**

The TCLP extraction procedure uses an aqueous extraction fluid that can produce a multiphase sample (oil and water layers) when processing an oily waste using the extraction method. A multiphase sample is difficult to analyze. Additionally, analysis for volatile constituents is especially challenging in non-aqueous and multiphase wastes.

Drying an oily sample is also difficult when determining the dry weight of the sample. The test results may not accurately represent the leachability of the waste.

40 CFR 261.24 does not specify particular analysis method for the waste determination once the TCLP process is done. Laboratories can accommodate for specific physical characteristics by choosing an appropriate analysis method after extracting the waste using Method 1311.



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¹ Title 40 of the Code of Federal Regulations (CFR) Part 261.24.

Recommendations

Manage the material as used oil if it meets the definition of used oil.

Used oil is exempt from management as a hazardous waste when it is recycled, and, therefore, does not require a TCLP for most conditions **if the material meets the definition of used oil**. Used oil includes oil that has been refined from crude or synthetic oil and used as a lubricant, electrical insulation oil, hydraulic fluid, brake fluid, refrigeration oil grease or machine cutting fluid. For more information used oil, go to <http://www.deq.state.or.us/lq/hw/usedoil.htm>.

Used oil destined for disposal is subject to management as a potential hazardous waste.

Used oil containing greater than 1,000 ppm of total halogens is presumed to have been mixed with listed hazardous waste. Refer to 40 CFR 279.10 for a description how to manage mixtures of used oil and other materials.

Managing the material for disposal or in a manner constituting disposal

Due to the difficulty performing a TCLP test on oily wastes, DEQ staff and generators should consider the following steps when making a hazardous waste determination:

- **Discuss sampling needs with your laboratory**

Discuss with your laboratory what the sampling needs are to determine if you are requesting the correct analytical method **before** you collect the sample. Prior arrangements can ensure that the right sample size, container and method are chosen.

- **Evaluate the material for listed hazardous waste chlorinated solvents**

Oily wastes may contain spent solvents that are listed hazardous waste. Listed solvents include, but are not limited to, trichloroethylene, methylene chloride, trichloroethane and perchloroethylene. Oily wastes containing listed hazardous waste must be managed as a hazardous waste. A complete list of the chlorinated solvents is found in 40 CFR 261.31(a).

- **Evaluate the waste for other hazardous waste characteristics.**

Does the waste exhibit a hazardous waste characteristic for ignitability, corrosivity or reactivity? If the waste exhibits a hazardous waste characteristic for ignitability, corrosivity or reactivity after a determination, a TCLP test may not need to be done if it is a known hazardous waste.

- **If possible, use knowledge of process for waste determination.**

In some cases, knowledge of how the waste was produced may work. If the waste contains a listed hazardous waste, manage it as a hazardous waste. Evaluation of how the waste was generated can often indicate if the waste will be a hazardous waste without testing. In many cases,

generators may not have adequate information to rely solely on this determination method and testing must be conducted.

Perform total constituent analysis

The TCLP procedure states: "If total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are in such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run." In other words, use total analysis to screen for hazardous constituents.

If the total result for an individual contaminant is less than 20 times the TCLP regulatory concentration for the corresponding hazardous waste toxic characteristic, the waste will not exceed the regulatory TCLP limit if the waste contains 100% solids. For a waste that contains 100% solids, as defined by the TCLP method, the results of the total constituent analysis may be divided by twenty to convert the total results into the maximum leachable concentration. This factor comes from the 20:1 liquid-to-solid ratio employed in the TCLP leaching procedure.

For example, if the lead total analysis of a waste was 80 ppm it would not fail the TCLP value of 5 mg/l for lead since it is less than 20 times the regulatory TCLP level (5.0 mg/l X 20 = 100). However, if the total lead sample yields a result of 180 ppm, the result would exceed the screening value (180 ppm > 100). Therefore, the waste could be a characteristic hazardous waste for lead.

NOTE: This is a conservative screening estimate and assumes that all the lead will leach from the sample.

If a waste has filterable liquid, then the lab must determine the concentration of the analyte in each phase (liquid and solid).

For further information, refer to January 1994 EPA RCRA Hotline Report titled "[Use of Total Waste Analysis in Toxicity Characteristic Determinations.](#)"

Note: When conducting a waste determination and total analysis results show TCLP constituents present in levels that could be above the regulatory limit, the TCLP procedure is necessary to demonstrate that the waste is not hazardous waste.