

Ohio Hazardous Waste

Notifier

A Publication of Ohio EPA, Division of Hazardous Waste Management

Fluorescent Lamps - Are Green-tips Better?

by Rose McLean, Regulatory Services Unit

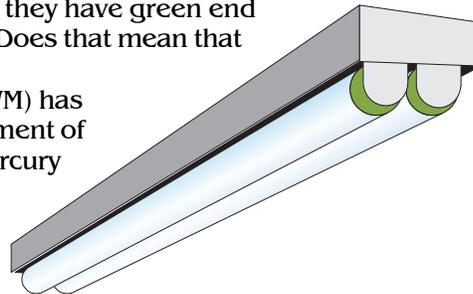
What type of lamps do you use at your business? Do they have green end caps - also known as green-tips or green-tipped lamps? Does that mean that you can dispose of them as non-hazardous waste?

The Division of Hazardous Waste Management (DHWM) has received numerous questions about the proper management of green-tipped lamps. Most businesses believe that the mercury content in these types of lamps is low enough to allow disposal of the lamps in the general trash. This assumption, if not confirmed through proper analysis or records, is incorrect. You should not regard green-tipped lamps as non-hazardous waste unless you have properly evaluated them. (Refer to our fact sheet on *Fluorescent Lamps* for more information).

Currently in Ohio, when you intend to discard fluorescent lamps, you are the generator of those lamps. If you intend to dispose of the lamps, you must first evaluate them, regardless of the lamp's end-cap color, to determine whether they are hazardous waste, as required in Ohio Administrative Code (OAC) *Rule 3745-52-11*.

As the generator, you may use knowledge based on information provided on the specific lamps, such as material safety data sheets - known as an MSDS, and analytical data provided by the manufacturer or laboratory testing to determine whether the lamps are hazardous waste. If you don't use generator knowledge or laboratory analysis to determine whether your lamps are hazardous, then you have not properly evaluated them.

Fluorescent lamps may contain up to 40 milligrams of elemental mercury, depending on the brand and manufacture date. Lamps may also contain lead and small amounts of antimony and cadmium. If present in high enough concentrations, any of these metals can cause the lamp to exhibit the characteristic of toxicity. Refer to Table 1 in OAC rule *3745-51-24* for more information on the characteristic of toxicity. Unless the lamps are being recycled, fluorescent lamps determined to be hazardous are regulated under the *hazardous waste rules*.



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Fluorescent Lamps *continued from page 1*

If the lamps are hazardous and will be disposed of, the generator must have them disposed of at a facility that has a hazardous waste permit. If generator knowledge or laboratory testing reveals that the lamps are not hazardous waste, the generator may dispose of them as non-hazardous solid waste.

If recycling your hazardous lamps, Ohio EPA does not consider them to be regulated waste. Therefore, the lamps would not be a hazardous waste. Ohio EPA strongly recommends and encourages generators to have their lamps recycled regardless of the lamps' hazardous or non-hazardous classification.

Please note: in Fall 2004, hazardous waste lamps will be added to Ohio's Universal Waste Rule (UWR) found in OAC [Chapter 3745-273](#). Under the UWR, hazardous waste lamps being discarded would remain hazardous waste even when recycled. Managing fluorescent lamps under the UWR will ease certain regulatory requirements otherwise imposed on generators. For more information on changes to lamp management requirements under the UWR, please read the article on page five in DHWM's *Summer 2003* edition of the *Notifier*.

The following link will take you to fluorescent lamp information on DHWM's Web site: www.epa.state.oh.us/dhwm/guideancedocs.html#UW.

If you have additional questions regarding fluorescent lamp management in Ohio contact DHWM's Regulatory Services Unit at: jeff.mayhugh@epa.state.oh.us or (614)644-2917. 

New Hazardous Waste Rules Effective This Fall

by Karen Hale, Regulatory Services Unit

Since September 2003, DHWM has been involved in a large rule making effort that has resulted in the proposal of approximately 380 rules to the legislature's Joint Committee on Agency Rule Review (*JCARR*). We plan to adopt these rules in August 2004, and anticipate that they will become effective in November 2004.

Of the rules, 103 are new rules and 46 were rescinded. Nearly 250 rules were amended to reflect federal rule changes, correct rule cross-references or include rule changes necessary as housekeeping measures.

Once this large group of rules is adopted, Ohio's regulations will be equivalent to the federal rules, with the exception of regulations on air emissions from hazardous waste management units and the exclusion for certain hazardous wastes used as ingredients to make fertilizer. Regulated facilities will no longer be subject to different state and federal rules. For more information on Ohio's rule-making process, see the article on page one of the *Winter 2002 Notifier*.

With the adoption of the new rules, we will implement 11 new significant regulatory programs. Five of these have been effective in Ohio for some time, but have been implemented and enforced only by U.S. EPA:

- Regulation of burning hazardous waste in boilers and industrial furnaces
- Updated requirements for liners and leachate detection systems for hazardous waste land disposal units (e.g., surface impoundments, waste piles)
- Expanded public participation requirements

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Hazardous Waste Rules *continued from page 2*

- Newly listed hazardous wastes: K174 and K175, chlorinated aliphatics production wastes; and K176, K177 and K178, inorganic chemical manufacturing wastes
- More descriptive construction and operational requirements for corrective action management units

The other six programs were developed by U. S. EPA to either promote hazardous waste recycling, create new mechanisms to encourage cleanups or to reduce regulatory burden by removing duplicative regulation of hazardous waste. They will be applicable in Ohio when the rules become effective in November and include:

- Identification and regulation of waste military munitions
- Post-closure permit requirements for hazardous waste management units and closure process
- Requirements for staging piles for the purpose of cleanup
- Mercury lamps defined as a universal waste
- Extended accumulation period for F006, electroplating wastewater treatment sludge destined for recycling
- Conditional exclusion from the definition of a hazardous waste for low-level radioactive wastes mixed with hazardous waste

In addition, we amended 12 rules and created one new rule to transfer responsibility to Ohio EPA from the Hazardous Waste Facility Board, which was eliminated through the passage of HB 95 by the Ohio General Assembly in summer 2003. Ohio EPA is now responsible for permitting new hazardous waste facilities and major modifications to existing facilities in accordance with the siting criteria found in Ohio law. The siting criteria can be found in new Ohio Administrative Code (OAC) rule [3745-50-38](#). To read more about the elimination of the board, refer to the article on page three of the [Spring 2004 Notifier](#).

To view the rules we will be adopting, please visit the Register of Ohio at www.register.ohio.state.oh.us/. Or, if you would like to view the rules organized by subject matter, go to www.epa.state.oh.us/dhwm/ipdr.html. Also, if you have questions regarding the rules, you may contact DHWM's Regulatory Support Unit at: jeff.mayhugh@epa.state.oh.us or (614) 644-2917.



Can I Evaporate My Hazardous Waste?

by Dan Sowry, Regulatory Services Unit

Ohio EPA has received numerous questions concerning the use of evaporators for on-site treatment of hazardous waste. The crux of most of these questions is – can I evaporate the water from my hazardous waste? Under certain circumstances, generators can evaporate the water from their hazardous waste, even without a hazardous waste permit.

Evaporators are used to expedite the reduction of water in hazardous waste. This reduces the weight and volume of the waste and only the remaining residue is left for disposal as hazardous waste.

Recently, Ohio EPA considered evaporators that were not part of an exempt unit, such as a reclamation unit, wastewater treatment unit or elementary neutralization unit, to be thermal treatment units. Ohio EPA has established hazardous waste rules for thermal treatment units.

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This activity requires a hazardous waste installation and operation permit, and cannot be conducted under the generator treatment provision of OAC rule [3745-52-34](#) which allows generators to treat hazardous waste they generate on-site without a hazardous waste permit, provided they comply with the requirements of OAC rule [3745-52-34](#). For more information on generator treatment, refer to our fact sheet on the [Regulatory Status of Generator Treatment](#).

After further review, Ohio EPA determined that the intent of the rules regulating thermal treatment are directed at thermal destruction or incineration, not the simple addition of heat to promote evaporation of water. Generators can use evaporators to reduce the volume of their hazardous waste under the generator treatment requirements. However, if there is a release of hazardous waste or hazardous waste constituent to the air or the environment, this would be considered disposal. A generator is not allowed to dispose of its hazardous waste in this manner. It must be disposed of at a permitted hazardous waste facility.

This limits the use of evaporators to aqueous waste that does not contain volatile hazardous constituents (VHCs) unless the VHCs are first removed by filtration or captured in some manner. Evaporators can be used to concentrate certain inorganic wastes, such as acidic solutions with heavy metals. However, some metals, such as lead and mercury, can be released to the air at certain temperatures. Wastes containing organic constituents, such as methylene chloride, are not appropriate for use in an evaporation system unless all vapors are captured and properly managed and there are no releases of hazardous constituents to the air or environment.

Generators may use evaporators to reduce the water content of their hazardous waste if they comply with the generator treatment requirements. The overriding determinant is that hazardous waste or hazardous waste constituents are not released to the environment. For additional information on this subject, please contact the Division of Hazardous Waste Management's Regulatory Services Unit at: jeff.mayhugh@epa.state.oh.us or (614) 644-2917.



What Should I Expect After Ohio EPA Conducts a Hazardous Waste Inspection at My Company?

by *Ralph McGinnis, Inspections Support Unit Manager*

After Ohio EPA conducts a hazardous waste inspection at your company, you can expect to receive either a notice of compliance (NOC) or notice of violation (NOV) letter. Along with either letter, you will receive a copy of the [inspection checklist](#) used during the inspection, along with a process description summary sheet. The NOC letter will indicate that we did not find violations of Ohio's hazardous waste laws. You are not required to respond to an NOC letter.



Alternatively, an NOV letter will explain the violations we found, what you need to do to abate the violations and will address any other general concerns. Typically, you must respond to the NOV letter within 30 days of receipt. In addition, both the NOC and NOV letters may explain any pollution prevention opportunities we identified during our inspection.

After your company responds to an NOV letter, we will evaluate the submitted information and determine whether you have adequately abated the violation(s). If we determine that you have adequately abated all violations, you will receive a return to compliance (RTC) letter to indicate such. You are required to respond to our letters until all violations have been abated.

Even after sending an RTC letter, we may still take escalated enforcement action. You will be notified prior to any such action.

For more information about Ohio's hazardous waste regulatory requirements, please contact the Regulatory Services Unit at: jeff.mayhugh@epa.state.oh.us, (614) 644-2917, go to the [forms and publications](#) section of DHWM's Web page or go to Ohio EPA, Small Business Assistance Office's [Compliance Tools](#).



Ask the Inspector

by Rose McLean, Regulatory Services Unit

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Q. What is a co-generator?

A. First, let's determine who is a generator. If you have a material that you can no longer use, and you have determined that material is a hazardous waste, you are the generator of a hazardous waste. A generator is defined as "any person, by site, whose act or process produces hazardous waste identified or listed in Ohio Administrative Code (OAC) *Chapter 3745-51* or whose act first causes a hazardous waste to become subject to regulation." You may be a hazardous waste generator for two reasons: your manufacturing process or the service you provide produces hazardous waste or causes something to be unusable.



This definition contains four important components: person, by site, act and process.

"Person" is defined in *OAC rule 3745-50-10* and refers to "an individual, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, the State of Ohio or any state of the United States, municipality, commission, political subdivision of the state or any interstate body."

"By site" refers to the location or geographically contiguous property (usually a specific address) where hazardous waste is generated, which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection. Ohio EPA tracks hazardous waste generation on a site-specific basis or by "individual generation site."

"Act" or "process" refers to a manufacturing or production process that generates a hazardous waste. For example, an electroplating process generates waste rinse water. Another example would be generating waste from cleaning a product or raw material storage vessel or pipeline.

"Act" or "process" can also refer to an action or effort that first causes a material to become a waste. A contractor may be the person whose act first causes a hazardous waste to become subject to regulation. For example, the contractor may be removing unwanted materials from product or raw material storage vessels. The contractor's act of removing the unwanted materials first causes the material to become a waste.

There are instances where there are more than one generator of a waste. For example, if a site owner hires a contractor to periodically clean a manufacturing process unit, the owner of the process unit acts to produce the hazardous waste, and the contractor who removes the hazardous waste from the unit subjects it to regulation. The site owner and contractor are co-generators because they both contribute to the generation of a hazardous waste. One or both parties can assume and perform the duties of the generator on behalf of both. However, if both parties generate the waste, both parties are jointly and severally liable.

Q. What are a co-generator's responsibilities?

A. As the co-generator, you may assume the full responsibilities of generator and therefore, you will be subject to Ohio's requirements for generators. These requirements are located in Ohio Administrative Code (OAC) Chapter 3745-52 and include, but are not limited to, the following:

- *3745-52-11* - Your waste must be evaluated or characterized to determine if it is hazardous. You may fulfill the evaluation requirement through knowledge of the waste stream or appropriate analytical procedures. If analytical procedures are used, you must test a representative sample of the waste stream.

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- **3745-52-12** - A generator must not treat, store, dispose of, transport or offer for transportation hazardous waste without having received a generator identification number from Ohio EPA. In the previous example, a site owner hires a contractor to periodically clean a manufacturing process unit, the owner of the process unit acts to produce the hazardous waste, and the contractor who removes the hazardous waste from the unit subjects it to regulation. The owner should already have a generator identification number from Ohio EPA. As a co-generator of waste, you must use their generator identification number.
- **3745-52-20 through 24** - A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a uniform hazardous waste manifest before transporting the hazardous waste off-site. Co-generators should establish which generator will sign the manifest.
- **3745-52-30 through 33** - A generator shall select appropriate containers and label, mark and placard those containers properly for shipment.
- **3745-52-34** - A generator may accumulate and/or treat hazardous waste that is generated on-site without an Ohio hazardous waste permit, provided they comply with applicable accumulation requirements such as use of appropriate containers and specific owner and operator requirements such as land disposal restrictions (**3745-270-07(A)(5)**), personnel training (**3745-65-16**), preparedness and prevention (**3745-65-30 to 3745-65-37**), and contingency plan and emergency procedures (**3745-65-50 to 3745-65-56**).
- **3745-52-40** - A generator must keep all records at least three years. 

Hazardous Waste Inspectors Help Minimize Waste and Save Money

by Helen Miller, Inspections Support Unit

Part of the intent of Ohio's hazardous waste rules is *pollution prevention (P2) and waste minimization*. P2 offers businesses several benefits that pollution control strategies cannot match. P2 promotes more efficient use of raw material inputs, more efficient raw material and waste handling practices and the generation of less waste. Efficient use of raw materials is economically desirable to businesses since less money is required to purchase raw materials, which in turn generates less waste and reduces waste management costs. Less waste generally means less liability, fewer reporting requirements and, potentially, better community relations. Since 1999, Ohio EPA's, Division of Hazardous Waste Management (DHWM) has been *integrating P2* into hazardous waste inspections. In 1999, all hazardous waste inspectors were trained on *how to integrate P2* into their inspections. Specific training was offered to inspectors on P2 for industrial processes in the parts washing, painting and coating and metal finishing sectors. P2 assessment training was also offered to inspectors.

DHWM recently used a telephone survey to measure the impact that inspectors have made on businesses when P2 was discussed during an inspection. U.S. EPA provided grant money for this measurement project.

The survey was designed to determine the following:

1. Whether the inspection prompted P2 discussions at the facility;
2. What about the inspection prompted the discussion;
3. Whether P2 projects had been implemented as a result of the inspection;
4. How much waste had been reduced from the P2 activity;

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5. How much money was saved; and
6. Whether there are any barriers preventing P2 activities.

Facilities were called by their inspector approximately six weeks after the hazardous waste inspection. Survey results indicated that of the facilities that we inspected, DHWM made a positive impact by prompting P2 discussions and activities. Although, specific data on cost savings and actual waste volume reduction was usually not available, DHWM can still show progress by tracking the numbers of facilities that have implemented or are discussing P2 activities. Survey data also indicated that we are more likely to have a positive P2 impact at companies where we've identified regulatory violations.

Survey Results

Thirty facilities were surveyed. Of the 30 facilities, 24 were Large Quantity Generators (LQGs), three were Small Quantity Generators (SQGs) and three were Treatment, Storage and Disposal (TSD) facilities. Six facilities (20 percent) were determined to be in full compliance at the time of the inspection, while the remaining were cited with one or more violations. Sixteen facilities were provided written P2 information as part of the inspection.

Twenty of the 30 facilities, or 66 percent, responded to the telephone survey indicating that some P2 related activity or discussion occurred as a result of the inspection. Nine of the 30 facilities, or 30 percent, indicated that P2 activities conducted by the facility since the inspection resulted in actual waste minimization. Twenty-five percent began recycling fluorescent bulbs, 25 percent began recycling solvent contaminated rags and another 25 percent reduced solvent use. The rest reported other P2 activities. One facility reported recycling 3.8 million pounds of waste into a saleable product. A 70 percent reduction in hazardous waste solvent use was reported at another facility. Another reported reducing its water usage by 40 percent. Yet another reported recycling 270 bulbs that were previously disposed of as a solid waste. None of the facilities could quantify cost savings, although they knew they had saved money.

Ten of the 30 facilities reported that barriers hinder P2 activities. The most common barriers cited were lack of time and money. Other barriers cited included unavailable technology and lack of management support.

P2 Mini Assessment Measurement

DHWM sometimes conducts "mini" P2 assessments, where one or several waste streams are evaluated during the inspection and P2 suggestions are made to the facility. Two LQG facilities where mini P2 assessments were completed were surveyed. During the inspection of these two facilities, 12 potential P2 opportunities were discussed. Both facilities indicated that following the inspection, P2 was discussed internally. One facility indicated that the P2 discussion with their inspector reminded them to reduce waste. The other facility said that the P2 discussion triggered the re-evaluation of their processes. Both facilities implemented P2 activities following the inspection. One facility reported a savings of \$75,000- \$100,000/year from recycling a waste stream that had been disposed of off-site as hazardous waste. Both facilities indicated no barriers to implementing P2. Both of the facilities were interested in receiving more P2 information from DHWM.

If you have any questions on P2 or waste minimization, please contact your district office hazardous waste inspector or Helen Miller in Central Office at (614) 644-2917.



Pollution Prevention Crossword

Across

1. ___ waste and conserving energy can result in cost savings for businesses while still being beneficial to the environment.

3. Evaluate process performance to help determine ___; adjust as necessary to be certain waste and off specification products are kept to a minimum.

6. Recover oils, solvents and other cleaning materials for ___ and recycling.

7. ___ only the volume of materials required to fill an order.

9. Install ___ and drag out tanks to recover drag out losses.

10. ___ rinse baths (bubbling air or mechanical stirring) to reduce water consumption.

12. ___ wastewater inflow and outflow rates from each unit process to assess water use.

13. Investigate less ___ alternatives to common solvents.

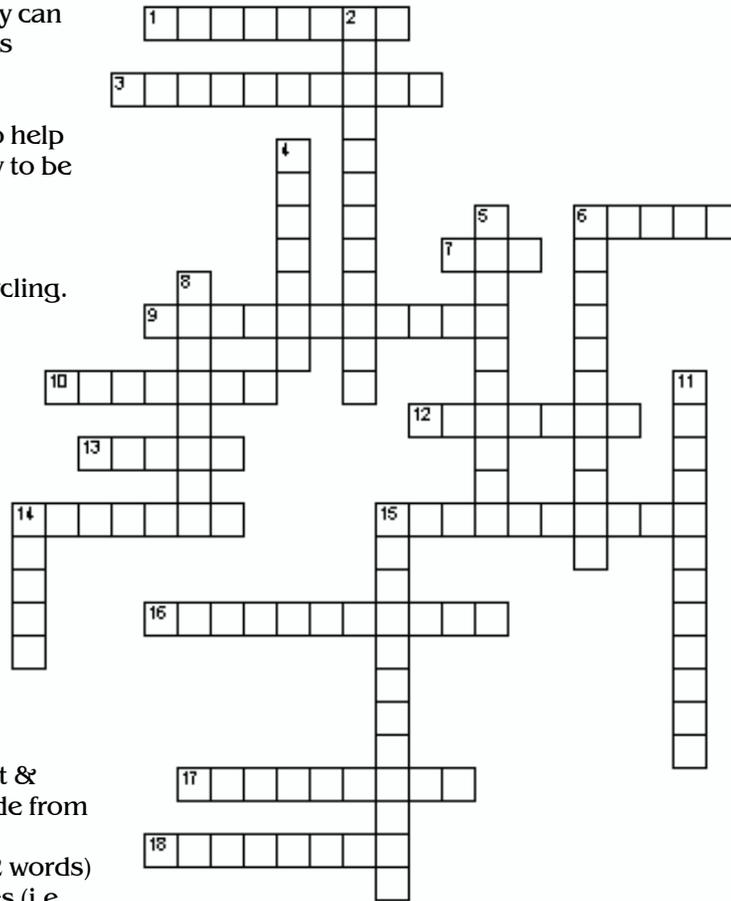
14. Evaluate payback of recycling programs by considering ___ input & disposal costs, and any profits made from the sale of recyclables.

15. Install ___ recycling systems. (2 words)

16. Use metal recovery technologies (i.e., ion exchange, reverse osmosis, electrolysis) or ___ to facilitate recycling and reuse of rinse waters.

17. ___ waste by type to enhance their potential for re-use.

18. ___ only the quantity of supplies needed to reduce the amount of outdated stock being thrown away.



Down

2. Substitute ___ ingredients for hazardous materials and biodegradable materials for persistent materials required to fill an order.

4. Perform regular maintenance to prevent leaks and ___ equipment life.

5. Equip ___ with flow control valves. (2 words)

6. Separate recyclable materials from waste and implement a collection system for ___ materials.

8. ___ the flow of the production line to minimize material handling.

11. Use ___ washing equipment to reduce the amount of waste water generated. (2 words)

14. Hold ___ over plating tanks for a sufficient amount of time to minimize drag out.

15. Reuse clean or ___ water where possible.

Throwing Away Waste Paint?

by Andy Kubalak, Regulatory Services Unit

Waste paint is paint that you do not use because it's the wrong color, too old, excess or overspray. When a business decides to dispose of its waste paint, it must evaluate or characterize the waste to determine whether it is hazardous, pursuant to Ohio Administrative Code (OAC) rule [3745-52-11](#). Waste paint alone would not be classified as a listed hazardous waste; however, it may exhibit a characteristic of a hazardous waste. Also, if it is mixed with a spent solvent or other listed hazardous waste, it would be classified as a listed hazardous waste.



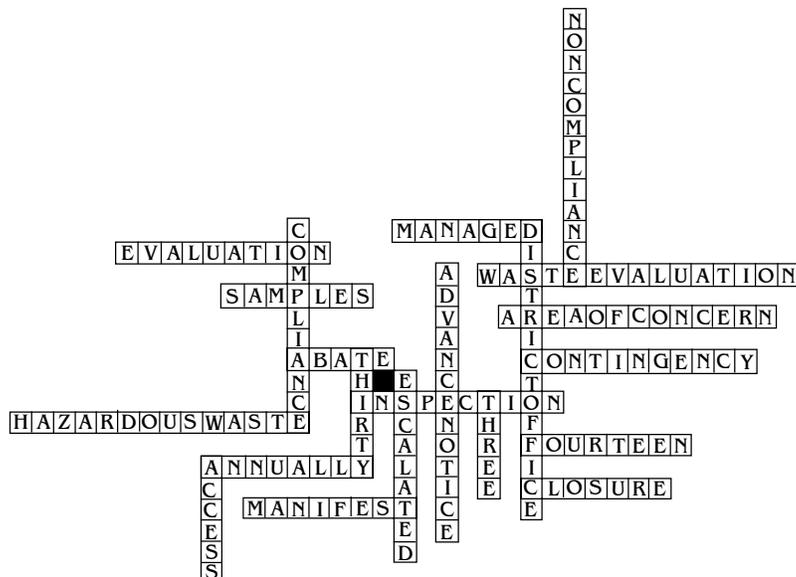
Some generators incorrectly classify used and unused (waste) paint formulations as listed hazardous waste, such as F003 and F005 (certain spent non-halogenated solvents). Although some paint formulations may contain solvents or other ingredients in quantities sufficient to make the paint exhibit a hazardous waste characteristic such as ignitability or toxicity, the waste paint would not be covered by the spent solvent listings. Even if the paint is thinned with solvents prior to use, the paint would not be covered by the listings because the listings are for *spent* solvents. In order for the waste to meet the criteria of the spent solvent listings, it must be generated as the result of a solvent being used for its "solvent" properties, thereby making it a spent solvent. Paint waste could also be covered by the listing if it is mixed with a spent solvent when you decide to discard it.

When you use a cleaning agent, such as a solvent, to clean a paint brush or purge a spray gun or a paint line, you have generated a waste that is a mixture of waste paint and a solvent. This mixture may be classified as a listed hazardous waste if it meets the listing description. To make this determination, you will need to know the concentration of each of the constituents in the solvent you use. If the solvent used for cleaning contains 10 percent or more (by volume) before use of one or more of the "F" listed hazardous wastes (typically F002, F003, and F005) then those "F" listings would apply to your paint waste. As stated above, if you mix listed hazardous waste with paint or paint-related waste, including unused paint formulations, the resulting mixture would be classified as listed hazardous waste. The listing descriptions are found in OAC rules [3745-51-31](#) to [3745-51-33](#).

If you have questions about how to classify your paint or paint-related waste, contact DHWM's Regulatory Services Unit at: jeff.mayhugh@epa.state.oh.us or (614) 644-2917.



Crossword Answers from Spring Notifier



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