

2011 Annual RCRA Review Workshop for Ohio Hazardous Waste Management

December 14, 2011

Workshop ID: WS20111214A

***Topics:
Hazardous Waste
Emergency Preparedness and Response
Universal Waste
Used Oil***



Sander Group Environmental, LLC

***Presented by:
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About Cory Sander

- *Bachelor of Science in Chemical Engineering from Michigan State University and over 16 years of environmental experience*
- *Worked in the industrial sector for over 7 years with Honda of America's environmental group*
- *After leaving Honda, began professional consulting career to help both small and large companies and organizations meet their environmental goals in a simple, effective, and affordable manner*
- *Primary focus is with environmental audits and reviews, support of management systems (e.g., ISO 14001), and training*



General Agenda

<i>9:00 AM – 9:30 AM</i>	<i>Introductions and Overviews</i>
<i>9:30 AM – 10:30 AM</i>	<i>Waste Determinations</i>
<i>10:30 AM – 11:00 AM</i>	<i>HW Generator Categories</i>
<i>11:00 AM – 12:00 PM</i>	<i>HW Accumulation Requirements</i>
<i>12:00 PM – 12:30 PM</i>	<i>LUNCH</i>
<i>12:30 PM – 1:30 PM</i>	<i>HW Shipping Requirements</i>
<i>1:30 PM – 2:00 PM</i>	<i>Other Requirements for HW Management</i>
<i>2:00 PM – 2:30 PM</i>	<i>Universal Waste and Used Oil</i>
<i>2:30 PM – 3:00 PM</i>	<i>Open Discussion</i>



Overview of RCRA

- *The Resource Conservation and Recovery Act (RCRA), an amendment to the Solid Waste Disposal Act, was enacted in 1976 to address the huge volumes of municipal and industrial wastes generated nationwide*
- *Amended significantly in 1984 by the Hazardous and Solid Waste Amendments (HSWA), which expanded the scope and requirements, largely in response to citizen concerns that existing methods of hazardous waste disposal, particularly land disposal, were not safe*



Overview of RCRA (cont.)

- *RCRA's goals are to:*
 - *Protect us from the hazards of waste disposal;*
 - *Conserve energy and natural resources by recycling and recovery;*
 - *Reduce or eliminate waste; and*
 - *Clean up waste, which may have spilled, leaked, or been improperly disposed*



Overview of RCRA (cont.)

- *Nearly everything we do leaves behind some kind of waste. Households create ordinary garbage. Industrial and manufacturing processes create solid and hazardous waste*
- *U.S. EPA's Office of Solid Waste and Emergency Response (OSWER) is responsible for overseeing RCRA*
- *Ohio EPA received authorization from U.S. EPA in 1989 to manage a state waste program*
- *Ohio EPA's Division of Materials and Waste Management (formerly the Division of Hazardous Waste Management) is responsible for implementing the state's hazardous waste program*



Waste Determinations

- *The first step in the hazardous waste identification process is determining if a material is a “waste”*
- *It must meet the definition of a “waste” (or “solid waste”). Ohio EPA uses the term “waste” (U.S. EPA uses the term “solid waste”) to denote certain materials that can no longer be used*
- *Regulations define a “waste” as any discarded material that is not excluded. Discarded materials are certain materials which are abandoned, recycled, inherently waste-like, or military munitions. See OAC 3745-51-02*



Waste Determinations (cont.)

Is the material excluded?

- *There are two categories of exclusions:*
 - *Exclusions from the definition of a waste; and*
 - *Exclusions from the definition of a hazardous waste*



Waste Determinations (cont.)

- *Some examples of waste exclusions:*
 - *Domestic sewage and mixtures of domestic sewage*
 - *Industrial wastewater discharges (point source discharges)*
 - *Irrigation return flows*
 - *Radioactive waste*
 - *In-situ mining waste*
 - *Pulping liquors*
 - *Spent sulfuric acid to be recycled*
 - *Closed-loop recycling*
 - *Spent wood preservatives*
 - *Coke by-product wastes*



Waste Determinations (cont.)

- *Some examples of waste exclusions (cont.):*
 - *Splash condenser dross residue*
 - *Hazardous oil-bearing secondary materials and recovered oil from petroleum refining operations*
 - *Processed scrap metal*
 - *Shredded circuit boards*
 - *Comparable fuels*
 - *Mineral processing spent materials*
 - *Petrochemical recovered oil*
 - *Used cathode ray tubes*
- *There are about 22 waste exclusions from Ohio EPA. See OAC 3745-51-04(A)*



Waste Determinations (cont.)

- *Some examples of hazardous waste exclusions:*
 - *Household waste (in Ohio)*
 - *Agricultural waste*
 - *Mining overburden*
 - *Trivalent chromium wastes*
 - *Arsenically-treated wood*
 - *Petroleum-contaminated media and debris from underground storage tanks*
 - *Spent chlorofluorocarbon refrigerants*
 - *Non-terne plated used oil filters*
 - *Used oil distillation bottoms*
- *There are about 15 hazardous waste exclusions from Ohio EPA. See OAC 3745-51-04(B)*



Waste Determinations (cont.)

Some other exclusions to mention

- *Exclusions for hazardous waste generated in raw material, product storage, or manufacturing units*
- *Exclusions for laboratory samples (e.g., waste characterization samples) and waste treatability studies*
- *Exclusions for dredged material regulated under the Marine Protection Research and Sanctuaries Act or the Clean Water Act*
- *Recyclable materials. See OAC 3745-51-06*
- *Residues in empty containers. See OAC 3745-51-07*
- *PCB wastes regulated under the Toxic Substances Control Act. See OAC 3745-51-08*
- *Universal wastes. See OAC 3745-51-09*

- *Hazardous waste determinations are required by OAC 3745-52-11*



Waste Determinations (cont.)

- *Once you've determined a material is a waste (it meets the definition) and is not excluded, then you must determine:*
 - *Is it listed as a hazardous waste?*
 - *Does it exhibit certain hazardous characteristics?*



Waste Determinations (cont.)

- *Listed hazardous wastes are defined and identified by a specific production process name or a specific chemical name*
- *Non-specific source waste are generic and commonly produced by many manufacturing and industrial processes. Examples include spent halogenated and non-halogenated solvents used in degreasing and wastewater treatment sludge from electroplating processes. These wastes are known as – “F” wastes. See OAC 3745-51-31*



Waste Determinations (cont.)

- *Listed hazardous wastes (cont.)*
 - *Specific source wastes are wastes from specifically identified industries such as wood preserving and organic chemical manufacturing or from specific sources including inorganic pigments and iron and steel. Typically include sludges, still bottoms, wastewater, spent catalysts and residues. These wastes are known as – “K” wastes. See OAC 3745-51-32*



Waste Determinations (cont.)

- *Listed hazardous wastes (cont.)*
 - *Commercial chemical product wastes are specific products or manufacturing chemical intermediates that are being discarded. These wastes are known as – “P” and “U” wastes. “P” wastes are considered to be “acutely hazardous” or very dangerous in small amounts. See OAC 3745-51-33*
 - *In most cases, if you mix a listed hazardous waste with a non-hazardous waste, the resulting mixture is considered a listed hazardous waste. Don’t do it. See OAC 3745-51-03*



Waste Determinations (cont.)

- *Characteristic hazardous wastes exhibit certain qualities that have been deemed dangerous enough to regulate. Considered “D” wastes.*
 - *Ignitability. Considered “D001”. See OAC 3745-51-21*
 - *Hazardous because they could cause fires during storage, transport, or disposal*
 - *A liquid, except certain aqueous solutions, that has a flash point less than 60 degrees C (140 degrees F); or*
 - *A non-liquid capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical; or*
 - *An ignitable compressed gas; or*
 - *An oxidizer*



Waste Determinations (cont.)

- *Characteristic hazardous wastes (cont.)*
 - *Corrosivity. Considered “D002”. See OAC 3745-51-22*
 - *Hazardous because they can react dangerously with other wastes, dissolve metal or other materials, or burn the skin*
 - *Aqueous and has a pH ≤ 2 or \geq to 12.5; or*
 - *Liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 degrees C (135 F)*



Waste Determinations (cont.)

- *Characteristic hazardous wastes (cont.)*
 - *Reactivity. Considered “D003”. See OAC 3745-51-23*
 - *Hazardous because they are unstable or may undergo a rapid or violent chemical reaction*
 - *Normally unstable and readily undergoes violent change without detonating; or*
 - *Reacts violently with water or forms potentially explosive mixtures with water; or*
 - *When mixed with water, it generates toxic gases, vapors, or fumes; or*
 - *Cyanide or sulfide bearing waste which can generate toxic gases, vapors, or fumes; or*



Waste Determinations (cont.)

- *Characteristic hazardous wastes (cont.)*
 - *Reactivity (cont.)*
 - *Capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement; or*
 - *Readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or*
 - *Forbidden explosive as defined in 49 CFR 173.54, or meets the definition of a class/division 1.1, 1.2, or 1.3 explosive as defined in 49 CFR 173.50*



Waste Determinations (cont.)

- *Characteristic hazardous wastes (cont.)*
 - *Toxicity. Considered “D004” – “D043”. See OAC 3745-51-24*
 - *Hazardous due to the presence of toxic constituents*
 - *If the waste contains any of the toxic constituents equal to or above the listed regulatory levels, it is a hazardous waste and must carry the specific hazardous waste code*
 - *A Toxicity Characteristic Leaching Procedure (TCLP) is often performed to determine the concentrations of constituents in wastes*



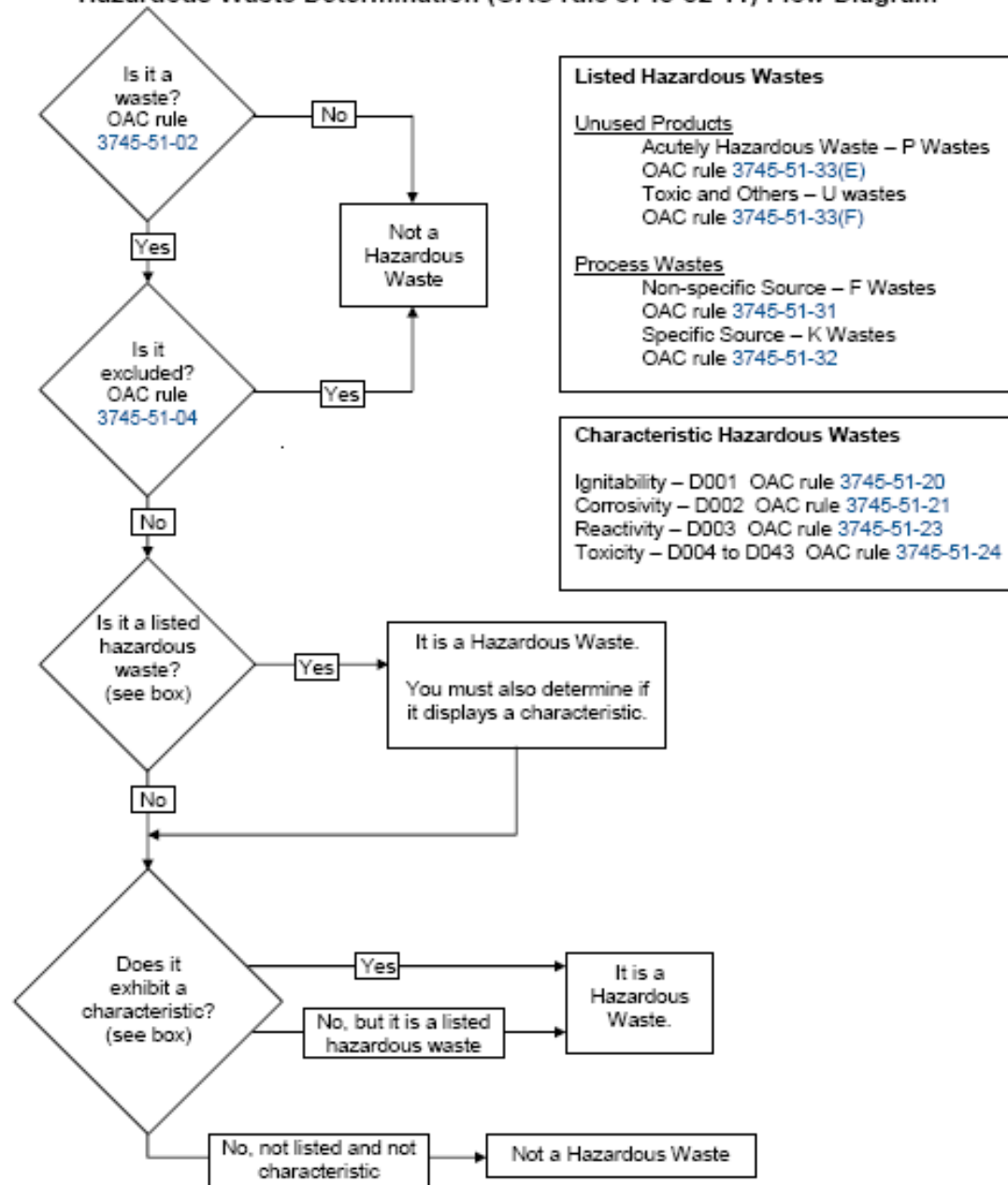
Waste Determinations (cont.)

A summary of the types of hazardous waste

- *Listed – “F”, “P”, “U”, “K” codes*
 - *Process specific; or*
 - *Material specific*
- *Characteristic – “D” codes*
 - *D001 – Ignitability;*
 - *D002 – Corrosivity;*
 - *D003 – Reactivity; and*
 - *D004 to D043 – Toxicity*



Hazardous Waste Determination (OAC rule 3745-52-11) Flow Diagram



Waste Determinations (cont.)

Additional info. about waste determinations

- *Use generator knowledge (knowledge of processes, activities, materials, and data sheets), analytical results, or a combination of both for waste determinations. If you use analytic results, ensure they are done according to acceptable testing methods*
- *Document the results of your waste determinations. SGE has included an electronic template to use for documentation and some examples. Refer to your USB flash drive*
- *For more information, contact SGE or Ohio EPA*



***Let's Do
Some Exercises***

HW Generator Categories

- *In order to determine what accumulation and shipping requirements you must follow, you must first determine your generator category*
- *Determined by total weight of hazardous waste generated in any given month. Do not use the amount shipped or the average amount generated*
- *Use a waste tracking spreadsheet to document your monthly and total waste generation. SGE has provided an electronic example spreadsheet. Refer to the files on your USB flash drive*
- *Categories include:*
 - *Conditionally Exempt Small Quantity Generator (CESQG);*
 - *Small Quantity Generator (SQG); and*
 - *Large Quantity Generator (LQG)*



HW Generator Categories (cont.)

- *Conditionally Exempt Small Quantity Generator (CESQG)*
 - *Generation per month is ≤ 100 kg (~220 lbs or ~27 gal) of hazardous waste. See OAC 3745-51-05(A)*
- *Small Quantity Generator (SQG)*
 - *Generation per month is > 100 kg and $< 1,000$ kg of hazardous waste. See OAC 3745-50-10(A)(113) and OAC 3745-52-34(D)*
- *Large Quantity Generator (LQG)*
 - *Generation per month is $\geq 1,000$ kg of hazardous waste*



HW Generator Categories (cont.)

Some important notes about generator categories

- If a CESQG's total accumulation on-site at any time becomes > 1,000 kg of hazardous waste, the CESQG's regulatory burden increases – the CESQG essentially becomes a SQG. See OAC 3745-51-05(G)(2)*
- If a SQG's total accumulation on-site at any time becomes > 6,000 kg of hazardous waste, the SQG's regulatory burden increases – the SQG must get a hazardous waste permit. See OAC 3745-52-34(F)*



HW Generator Categories (cont.)

Two other important notes about generator categories

- If a CESQG generates > 1 kg (~ 2.2 lbs) of acute hazardous waste, regulatory burden increases – the CESQG essentially becomes a LQG. See OAC 3745-51-05(E)*
- If a CESQG generates > 100 kg of waste from the clean-up of a spill of any acute hazardous waste, regulatory burden increases – the CESQG essentially becomes a LQG. See OAC 3745-51-05(E)*



HW Generator Categories (cont.)

Counting your hazardous waste

- *Count hazardous waste when it is first generated...not after it is determined to be hazardous or after you've filled a drum*



HW Generator Categories (cont.)

Counting your hazardous waste (cont.)

- *You do not need to count materials that are not actually hazardous wastes or meet exclusions*
 - *Don't include domestic sewage or certain industrial wastewater discharges, scrap metals, samples, or treatability study samples. See OAC 3745-51-04*
 - *Don't include specific recyclable materials. See OAC 3745-51-06*
 - *Don't include hazardous wastes in empty containers, universal wastes, or used oil. See OAC 3745-51-07, 3745-51-09, and 3745-279-10*
 - *Don't include PCBs, Freon, asbestos, or radioactive material/waste. These are regulated under other entities*



HW Generator Categories (cont.)

Fluctuations of generator categories

- *If the weight fluctuates between categories from month to month, you are an episodic generator*
 - *May be the result of an infrequent or one-time occurrence such as: lab or tank clean-outs, raw materials or product inventories becoming a waste, or changing production levels*
 - *Generators may choose to satisfy the more stringent requirements to simplify compliance*
 - *If you change generator categories (for example, from SQG to LQG), you should notify Ohio EPA. Submit a Notification of Regulated Waste Activity form*



***Let's Do
Some Exercises***

HW Accumulation Requirements Satellite Accumulation

- *Accumulation requirements apply to SQGs & LQGs. They do not apply to CESQGs. Considered good management practices for CESQGs*
- *Hazardous wastes must be:*
 - *“At or near the point of generation”;*
 - *“Under the control of the operator” (e.g., an operator must be able to immediately respond to potential emergencies or must be able to minimize the potential for emergencies by limiting access to the wastes); and*
 - *Placed in containers (e.g., 55 gallon U.S. DOT approved drums, 5 gallon buckets, etc.)*



HW Accumulation Requirements Satellite Accumulation (cont.)

- *Containers must be:*
 - *Compatible with wastes (i.e., wastes cannot deteriorate containers);*
 - *In “good condition” (i.e., structural integrity of the containers must be maintained) and must be handled so as to not rupture;*
 - Note: If a container begins to leak, the hazardous waste must be transferred to another container that is in good condition*
 - *Closed except when adding or removing wastes; and*
 - *Marked with the words “Hazardous Waste” or words identifying the hazardous components (e.g., waste xylene, waste toluene)*



HW Accumulation Requirements Satellite Accumulation (cont.)

- *The total amount of hazardous waste must be less than 55 gallons (or 1 quart, if the waste is acutely hazardous)*

Note: If the total amount of hazardous waste exceeds the allowable limitation, the excess hazardous waste must be marked with the date the excess began and the excess must be moved to a 90/180/270 day accumulation area within 3 days of the excess date

- *Hazardous wastes can be accumulated indefinitely, provided the total amount of hazardous waste does not exceed 55 gallons (or 1 quart, if the waste is acutely hazardous)*
- *Satellite accumulation requirements can be found in OAC 3745-52-34(C)*



***Time for Some
Trivia!!***

What brand of beer was reportedly launched into space (well, actually the stratosphere, reaching an approximate altitude of 90,000 feet above the Earth) on May 27, 2011?

Answer: Natural Light (or Natty Light)

On May 27, 2011, two men sent a Styrofoam cooler containing a vacuum-sealed, full can of Natural Light up into the stratosphere using a helium-filled weather balloon. Attached to the cooler was a video camera, a tracking device, and an empty can of beer for decoration. The “spacecraft” was cleverly named...the Aluminum Fullcan.

*The video can be viewed on YouTube at
http://www.youtube.com/watch?v=_00eZtsuJ9M*

HW Accumulation Requirements

90/180/270 Day Accumulation

- *Remember, accumulation requirements apply to SQGs & LQGs...not CESQGs*
- *Hazardous wastes must be:*
 - *Placed in containers (e.g., 55 gallon U.S. DOT approved drums, 5 gallon buckets, etc.), tanks, containment buildings, or on drip pads*
- *Containers must be:*
 - *Compatible with wastes (i.e., wastes cannot deteriorate containers);*
 - *In “good condition” (i.e., structural integrity of the containers must be maintained) and must be handled so as to not rupture;*
 - Note: If a container begins to leak, the hazardous waste must be transferred to another container that is in good condition*



HW Accumulation Requirements 90/180/270 Day Accumulation (cont.)

- *Containers must be (cont.):*
 - *Closed except when adding or removing wastes;*
 - *Marked with the words “Hazardous Waste”; and*
Note: This is different from the satellite area requirement. Here, words identifying the hazardous components cannot be used
 - *Clearly marked with an accumulation start date*
- *No incompatible hazardous wastes together in accumulation areas*
- *Ignitable and reactive wastes must be away from materials that they may react with in a hazardous manner. For LQGs, also must be stored at least 50 feet from the property line*



HW Accumulation Requirements 90/180/270 Day Accumulation (cont.)

- *Sufficient aisle space must be maintained in accumulation areas*
- *For LQGs, 40 CFR Part 265 subparts AA, BB & CC apply. For more information, refer to the files on your USB flash drive or contact SGE or Ohio EPA*
- *A weekly (i.e., 7 days or less) inspection of each area accumulating containers must be done and maintained using an inspection log. Tank accumulation must be inspected daily*
- *Hazardous wastes can only be accumulated for 90/180/270 days. 90 days applies to LQGs. 180 days applies to SQGs. 270 days is an exception for SQGs*
- *Accumulation requirements can be found in OAC 3745-52-34*



HW Accumulation Requirements Empty Containers

- *A container or an inner liner (removed from a container) that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste, is empty if:*

- *All wastes have been removed that can be removed using the practices commonly employed (e.g., pouring, pumping, and aspirating)*

AND

- *No more than 2.5 centimeters (one inch) of residue remains; or*
 - *No more than 3% by weight of the total capacity of the container remains if the container is \leq 119 gallons in size; or*
 - *No more than 0.3% by weight of the total capacity of the container remains if the container is $>$ 119 gallons in size*



HW Accumulation Requirements Empty Containers (cont.)

- *A container or an inner liner that has held an acute hazardous waste is empty if:*

- *Triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate*

OR

- *Cleansed by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal*

OR

- *In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed*



HW Accumulation Requirements Empty Containers (cont.)

- *A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric*
- *Regulations applicable to empty containers can be found in OAC 3745-51-07*



HW Accumulation Requirements Final Thoughts

- *Remember to review and understand your facility's site-specific hazardous waste accumulation procedures/work instructions*



***Let's Do
Some Exercises***

***Time for a Quick
Quiz***

***Let's Do
LUNCH!!***

HW Shipping Requirements Preparation for Transportation

Pre-transport regulations are designed to ensure safe transportation of hazardous waste. Ohio EPA adopted U.S. DOT's regulations for packaging, labeling, marking, and placarding. These DOT regulations can be found at 49 CFR Parts 172, 173, 178, and 179. DOT regulations require:

- Proper packaging to prevent leakage during normal transport conditions and potentially dangerous situations (e.g., if a drum falls off of a truck);*
- Labeling, marking, and placarding to identify the characteristics and dangers. Pre-transport regulations only apply to generators shipping waste off-site for treatment, storage, or disposal. Transportation on-site is not subject to these pre-transport requirements*



HW Shipping Requirements Preparation for Transportation (cont.)

Packaging

- *Before you ship your hazardous waste off-site, you must package the hazardous waste as required by the DOT regulations found in 49 CFR Parts 173, 178, and 179. See OAC 3745-52-30*

Labeling

- *Before you ship your hazardous waste off-site, label each package of hazardous waste as required by DOT regulations found under 49 CFR Part 172. See OAC 3745-52-31*



HW Shipping Requirements Preparation for Transportation (cont.)

Marking

- *Before you ship your hazardous waste off-site, mark each package of hazardous waste as required by DOT regulations found in 49 CFR Part 172*

- *Before you transport hazardous waste off-site, you must mark each container of 119 gallons or less with the following information displayed as required by 49 CFR 172.304:*

Hazardous waste – Federal law prohibits improper disposal. If found, contact the nearest police or public safety authority or the United States Environmental Protection Agency.

Generator's name and address _____

Generator's EPA identification number _____

Manifest tracking number _____

- *Marking requirements can be found in OAC 3745-52-32*



HW Shipping Requirements Preparation for Transportation (cont.)

HAZARDOUS WASTE	
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.	
GENERATOR'S INFORMATION:	
NAME _____	PHONE _____
ADDRESS _____	CITY _____ STATE _____ ZIP _____
MANIFEST _____	ACCUMULATION _____
TRACKING NO. _____	START DATE _____
EPA _____	EPA _____
ID NO. _____	WASTE NO. _____
[_____]	
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX	
HANDLE WITH CARE!	



HW Shipping Requirements Preparation for Transportation (cont.)

Placarding

- *Before you transport hazardous waste off-site, you must placard or offer the initial transporter the appropriate placards according to DOT regulations found in 49 CFR Part 172, subpart F. See OAC 3745-52-33*



HW Shipping Requirements Preparation for Transportation (cont.)

Some additional info. about preparation for transportation

- Any person shipping hazardous waste must be DOT trained. And, in fact, any person involved in the process of shipping hazardous waste must be DOT trained*
- DOT requirements apply to all generator categories. However, the wording found on the famous yellow hazardous waste label is not a requirement for CESQGs*



HW Shipping Requirements Preparation for Transportation (cont.)

Some additional info. about preparation for transportation (cont.)

- Shipments must be accompanied with a complete Uniform Hazardous Waste Manifest (manifest). EPA Form 8700-22. Applies to SQGs and LQGs...not CESQGs. Common, however, for CESQGs to use manifests for shipments of hazardous waste. See OAC 3745-52-20*
- In general, facilities accepting shipments must be informed of land disposal restrictions for each waste. Applies to SQGs and LQGs...not CESQGs. See OAC 3745-270-07*



HW Shipping Requirements

Uniform Hazardous Waste Manifest

- *Remember, manifest requirements apply to SQGs and LQGs...not CESQGs*
- *Manifests must include:*
 - *Generator's info. such as U.S. EPA ID number, name, mailing address, telephone number, and emergency response phone number;*
 - *Total number of pages used to describe the shipment;*
Note: a continuation sheet to the manifest must be used if there are more than four (4) wastes or more than two (2) transporters associated with the shipment
 - *All transporters and their U.S. EPA ID numbers;*
 - *Designated waste facility's info. such as the U.S. EPA ID number, name, actual site address, and telephone number;*



HW Shipping Requirements Uniform Hazardous Waste Manifest (cont.)

- *Manifest must include (cont.):*
 - *Describe each waste being shipped using its proper U.S. DOT description;*
 - *Total number of containers for each waste and the appropriate abbreviation describing the container type (e.g., DM = metal drums);*
 - *Proper waste codes for each waste;*
 - *Total quantity and unit of measure for each waste; and*
 - *Special handling instructions or additional information. May include profile IDs, E.R. guide numbers, facility profile numbers, etc.*
- *Manifest must be certified by a generator's representative and the transporter*

Note: The certification includes printed names, signatures, and dates



Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 1 1 1 1 1 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number 2. Page 1 of 3. Emergency Response Phone 4. Manifest Tracking Number

5. Generator's Name and Mailing Address Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name U.S. EPA ID Number

7. Transporter 2 Company Name U.S. EPA ID Number

8. Designated Facility Name and Site Address U.S. EPA ID Number

Facility's Phone:

9a. Hbl	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
1.						
2.						
3.						
4.						

14. Special Handling Instructions and Additional Information

15a. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.

I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's Officer's Printed/Typed Name Signature Month Day Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.: 2

Transporter signature (for exports only): 3 4 5 6 7 8

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name Signature Month Day Year

Transporter 2 Printed/Typed Name Signature Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18b

Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)



HW Shipping Requirements Uniform Hazardous Waste Manifest (cont.)

- *Generator must receive returned copies of completed manifests*
- *For SQGs, if a returned copy is not received within 60 days after the transporter accepted the shipment:*
 - *Submit a legible copy of the manifest with some indication that you have not received confirmation of delivery to Ohio EPA. See OAC 3745-52-42(B)*
- *For LQGs:*
 - *If a returned copy is not received within 35 days, contact the transporter and/or destination facility to determine the status of the hazardous waste. See OAC 3745-52-42(A)(1); and*
 - *If a returned copy is not received within 45 days, send an exception report to Ohio EPA. See OAC 3745-52-42(A)(2)*



***Time for Some
Trivia!!***

What well-known American stand-up comedian and actor released the hit single song “Party All the Time” that reached No. 2 on the Billboard Hot 100 in 1985?

Answer: Eddie Murphy

The song was written and produced by Rick James and Kevin Johnston and was kept off the top of the Billboard Hot 100 by Lionel Richie's "Say You, Say Me". In March and April of 2009, VH1 listed it as No. 80 on its countdown of the 100 Greatest One Hit Wonders of the 80s...even though Eddie had another hit, "Put Your Mouth on Me", reaching No. 27 in 1989.

HW Shipping Requirements Land Disposal Restrictions

- *Remember, land disposal restriction (LDR) requirements apply to SQGs and LQGs...not CESQGs*
- *In general, for each waste, a one-time LDR Notification must be sent to each designated waste facility with the initial shipment*
Note: Another notification need not be sent until the waste changes in such a way that it effects the original notification
- *In general, LDR Notifications must indicate:*
 - *Manifest number;*
 - *The waste's appropriate hazardous waste codes;*



HW Shipping Requirements Land Disposal Restrictions (cont.)

- *In general, LDR Notifications must indicate (cont.):*
 - *Constituents of concern for F001 to F005 and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice;*
 - *The waste's treatment standards and codes;*
 - *Applicable treatability group (i.e., wastewaters or nonwastewaters); and*
 - *Waste analysis data (when available)*



Land Disposal Restrictions Notification - EXAMPLE

SECTION I

Generator's Name:	
EPA Generator I.D. #:	
Waste Code(s):	
Waste Description:	
Date of Shipment:	
Manifest Document #:	
Manifest Line Number:	
Waste Determination:	<input type="checkbox"/> is based on analytical results, attached <input type="checkbox"/> is based on knowledge and generating process
Treatability Group:	<input type="checkbox"/> Wastewater <input type="checkbox"/> Non-Wastewater

This shipment includes waste that is subject to the land disposal restrictions and must be treated to meet land disposal restrictions treatment requirements.

The required information applicable to each waste is identified below (check all that apply):

	This shipment includes D001 [other than 1) high-TOC ignitables; or 2) other ignitables that will be combusted or recovered], D002, D003 (other than reactive cyanides/sulfides and unexploded ordnance/other explosive devices subject to an emergency response), and/or D012-D043 (other than D012-D017 wastewaters) characteristic wastes. The waste will not be managed in a CWA (or equivalent) system. The waste contains underlying hazardous constituents which do not meet the treatment standards of OAC 3745-270.
	This shipment includes F001 - F005 or F039, as identified in Section III.

EPA Hazardous Waste Codes:

Check all that apply	Waste Code	Subcategory	Wastewaters (Concentration in mg/l or Technology Code)	Non-Wastewaters (Concentration in mg/kg unless noted as "mg/L TCLP"; or Technology Code)

SECTION II

The following are underlying hazardous constituents of concern likely to be present in this waste:

Check all that apply	Constituent	Check all that apply	Constituent	Check all that apply	Constituent

These constituents must be treated to meet land disposal restrictions treatment standards

SECTION III

This shipment includes F001 - F005 or F039, as identified below:

Check all that apply	Hazardous Waste Description	Regulated Hazardous Constituents

These constituents must be treated to meet land disposal restrictions treatment standards

GENERATOR'S AUTHORIZED SIGNATURE: _____

PRINTED NAME & TITLE: _____ DATE: _____



HW Shipping Requirements Land Disposal Restrictions (cont.)

- *There are circumstances in which different requirements apply (e.g., for hazardous waste debris or contaminated soil). For more information, refer to the files on your USB flash drive or contact SGE or Ohio EPA*
- *See OAC 3745-270*



HW Shipping Requirements Final Thoughts

- *Remember to review and understand your facility's site-specific hazardous waste shipping procedures/work instructions*



***Let's Do
Some Exercises***

Other Requirements for HW Management Personnel Training

- *LQGs must conduct classroom instruction or on-the-job training for facility employees and maintain documentation of the training*
 - *Applies to facility personnel managing hazardous waste*



Other Requirements for HW Management Personnel Training (cont.)

- *For LQGs:*
 - *Individuals conducting the training program must be trained in hazardous waste management procedures;*
 - *Must teach procedures relevant to the positions in which they are employed;*
 - *At a minimum, must be designed to ensure that personnel are able to respond effectively to emergencies. The outline must include instruction in waste management procedures and implementation of the company's contingency plan;*



Other Requirements for HW Management Personnel Training (cont.)

- *For LQGs (cont.):*
 - *Facility personnel must complete an initial training program and an annual refresher training program;*
 - *Personnel training documentation must be maintained on file at the facility, including written job titles and descriptions for each position related to hazardous waste management activities;*
 - *For current employees, keep records until closure of the facility; and*
 - *For former employees, keep records for at least 3 years from the date the employee last worked at the facility*
- *Personnel training for LQGs is referenced in OAC 3745-52-34(A)(4) and requirements can be found in OAC 3745-65-16*



Other Requirements for HW Management Personnel Training (cont.)

- *SQGs must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities. There is no requirement for an annual refresher. However, annual training is considered a good management practice. See OAC 3745-52-34(D)(5)*
- *There are no personnel training requirements for CESQGs. However, annual training is considered a good management practice*
- *For more information, refer to the files on your USB flash drive or contact SGE or Ohio EPA*



Other Requirements for HW Management Emergency Preparedness and Response

- In order to help minimize the possibility of fire, explosion, or release of hazardous waste, SQGs and LQGs must be adequately prepared and able to respond to emergencies*
- CESQGs do not have emergency preparedness and response requirements*
- Must have equipment at the facility (unless none of the hazards posed by the wastes require such equipment)*
 - Internal communications or alarm systems*
 - A device such as a telephone or two-way radio capable of summoning emergency assistance*
 - Portable fire control, spill control, and decontamination equipment*
 - Water in adequate volumes and pressures for fire control*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Must maintain and test/inspect equipment as necessary to ensure proper operation. Follow manufacturer's recommendations*
- *Must record testing/inspecting in a log or summary*
 - *May be completed and recorded during the accumulation (e.g., container) inspections and/or by an emergency response team*
- *Must maintain adequate aisle space to allow unobstructed movement of personnel and emergency equipment in the event of an emergency*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Must make arrangements with local emergency authorities to familiarize them with the layout of your facility, hazards, common personnel locations, entrances to roads inside the facility, and possible evacuation routes*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Additionally, SQGs:*
 - *Must have at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response. This employee is the emergency coordinator*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Additionally, SQGs (cont.):*
 - *Must post the following information next to emergency telephones:*
 - *The name and telephone number of the emergency coordinator;*
 - *Location of fire extinguishers and spill control material, and, if present, fire alarms); and*
 - *The telephone number of the fire department, unless the facility has a direct alarm*
 - *Must have emergency response procedures in place to adequately respond to emergencies*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Additionally, LQGs:*
 - *Must implement and maintain a hazardous waste contingency plan*
 - *Contents of the plan must include a requirement for an emergency coordinator, emergency procedures, arrangements agreed to by local authorities, a list of emergency coordinators, a list of emergency equipment, and evacuation plans*



Other Requirements for HW Management Emergency Preparedness and Response (cont.)

- *Emergency preparedness and response for SQGs is referenced in OAC 3745-52-34(D)(4) and requirements can be found in OAC 3745-65-30 through 3745-65-37*
- *Emergency preparedness and response for LQGs is referenced in OAC 3745-52-34(A)(4) and requirements can be found in OAC 3745-65-30 through 3745-65-37 and OAC 3745-65-50 through 3745-65-56*
- *For more information, refer to the files on your USB flash drive or contact SGE or Ohio EPA*



Other Requirements for HW Management Annual Reporting

- *LQGs are required to submit an annual report to Ohio EPA by March 1st of each year. See OAC 3745-52-41*
- *CESQGs and SQGs are not required to submit annual reports*
- *The report provides Ohio EPA and U.S. EPA with data concerning your facility's hazardous waste generation, management, and waste minimization activities for the previous calendar year*
- *For more information, contact SGE or visit Ohio EPA's website at <http://www.epa.state.oh.us/Default.aspx?tabid=2233>*



Other Requirements for HW Management

U.S. EPA Identification Numbers

- *U.S. EPA identification (ID) numbers are tracking numbers assigned by Ohio EPA using U.S. EPA's RCRAInfo database. Numbers are part of a nationwide effort to track hazardous waste from "cradle to grave"*
- *SQGs and LQGs must have a U.S. EPA ID number*
- *CESQGs are not required to obtain a U.S. EPA ID number*
- *U.S. EPA ID numbers can be obtained by completing EPA Form 9029 and submitting it to Ohio EPA. SGE has provided an electronic version of this form. Refer to the files on your USB flash drive*
- *For more information, contact SGE or visit Ohio EPA's website at <http://www.epa.state.oh.us/Default.aspx?tabid=3915>*



Other Requirements for HW Management Notifications of Regulated Waste Activity

- SQGs and LQGs should keep notifications of regulated waste activity up-to-date*
- CESQGs do not need to notify Ohio EPA of regulated waste activity*
- Notifications can be kept up-to-date by submitting a subsequent notification, using EPA Form 9029, to Ohio EPA. SGE has provided an electronic version of this form. Refer to the files on your USB flash drive*



Other Requirements for HW Management Notifications of Regulated Waste Activity (cont.)

- *In general, submit a subsequent notification when:*
 - *Contact or contact information for your site changes;*
 - *Name and/or ownership changes;*
 - *Type of activity you conduct changes; or*
 - *If you're an eligible academic entity opting into or withdrawing from OAC 3745-52-200 through 3745-52-216*
- *For more information, refer to the files on your USB flash drive, contact SGE, or visit Ohio EPA's website at <http://www.epa.state.oh.us/Default.aspx?tabid=3915>*



Other Requirements for HW Management Record Keeping

- *For CESQGs, maintain records for:*
 - *Waste determinations;*
 - *Test results, if available;*
 - *Generator category determinations (technically considered a good management practice); and*
 - *Personnel training, if available (technically considered a good management practice)*



Other Requirements for HW Management Record Keeping

- *For SQGs, maintain records for:*
 - *Waste determinations;*
 - *Test results, if available;*
 - *Generator category determinations (technically considered a good management practice);*
 - *Inspections (accumulation and emergency equipment);*
 - *Manifests;*
 - *Exception reports;*
 - *LDR Notifications and accompanying data;*
 - *Personnel training (record keeping technically considered a good management practice); and*
 - *Your request for a U.S. EPA ID number and notifications of regulated waste activity (record keeping technically considered a good management practice)*



Other Requirements for HW Management Record Keeping

- *For LQGs, maintain records for:*
 - *Waste determinations;*
 - *Test results, if available;*
 - *Generator category determinations (technically considered a good management practice);*
 - *Inspections (accumulation and emergency equipment);*
 - *Manifests;*
 - *Exception reports;*
 - *LDR Notifications and accompanying data;*
 - *Personnel training;*
 - *Contingency plan;*



Other Requirements for HW Management Record Keeping

- *For LQGs, maintain records for (cont.):*
 - *Annual reports; and*
 - *Your request for a U.S. EPA ID number and notifications of regulated waste activity (record keeping technically considered a good management practice)*
- *For all generator, maintain records on-site for 3 years (longer for training records of current employees)*
 - *The 3 year retention period is extended automatically during unresolved actions or as requested by the director*
- *Record keeping and retention period requirements are found primarily in OAC 3745-52-40*



Other Requirements for HW Management Final Thoughts

- *Remember to review and understand your facility's site-specific procedures/work instructions for personnel training, emergency preparedness, emergency response, and record keeping*
- *In particular, be sure you are familiar with your facility's evacuation routes and applicable emergency equipment*



***Time for a Quick
Quiz***

Universal Waste

- *Universal wastes are specific, otherwise hazardous wastes managed under requirements that are less complex*
- *Universal wastes are generated by numerous entities such as businesses, government agencies, and schools. Typically in small quantities*
- *Rules are intended to promote recycling and proper disposal by easing certain regulatory requirements*



Universal Waste (cont.)

- *In Ohio, there are currently four categories of universal wastes:*
 - *Batteries;*
 - *Pesticides;*
 - *Mercury-containing equipment; and*
 - *Lamps*
- *See OAC 3745-273-02 through 3745-273-05*



Universal Waste (cont.)

- *There are two categories of handlers:*
 - *If you accumulate $< 5,000$ kg (~ 11,000 pounds) at any time, you are a small quantity universal waste handler (SQUWH). See OAC 3745-273-09(K)*
 - *If you accumulate $\geq 5,000$ kg, you are a large quantity universal waste handler (LQUWH). Not common. Universal waste category is retained until the end of the calendar year. See OAC 3745-273-09(G)*
- *Your handler category is separate from your facility's hazardous waste generator status*



Universal Waste (cont.)

SQUWH accumulation requirements

- *Universal wastes must be managed in a way that prevents release*
- *In general, universal wastes must be stored in containers*
 - *Non-leaking batteries and mercury-containing equipment are not required to be stored in containers, but, for simplicity and as a good management practice, handlers typically do*
- *Containers must be structurally sound, compatible with the waste, and cannot show evidence of leakage, spillage, or damage*
- *See OAC 3745-273-13*



Universal Waste (cont.)

SQUWH accumulation requirements (cont.)

- *Must be clearly labeled with proper wording. See OAC 3745-273-14*
 - *Batteries use “Universal Waste – Batteries” or “Waste Batteries” or “Used Batteries”*
 - *Mercury-containing equipment use “Universal Waste – Mercury-Containing Equipment” or “Waste Mercury-Containing Equipment” or “Used Mercury-Containing Equipment”. For thermostats, use “Mercury Thermostats” in place of “Mercury-Containing Equipment”*
 - *Lamps use “Universal Waste – Lamps” or “Waste Lamps” or “Used Lamps”*
 - *Pesticides have slightly different labeling requirements*



Universal Waste (cont.)

SQUWH accumulation requirements (cont.)

- *Universal wastes cannot be accumulated for more than 1 year. There is an exception but it comes with additional burden*
- *Must be able to demonstrate the length of time of accumulation. This is typically done by dating containers with the earliest date containers received any universal waste*
- *See OAC 3745-273-15*



Universal Waste (cont.)

**Universal
Waste
Lamps**

Accumulation Date _____



Universal Waste (cont.)

Shipping info. for SQUWHs

- *Not required to manifest off-site shipments of universal waste. However, must only ship to and ensure delivery of universal waste to another universal waste handler or to a permitted destination facility. See OAC 3745-273-18 and 3745-273-19*



Universal Waste (cont.)

Other info. for SQUWHs

- *Must inform all employees of proper handling and emergency procedures appropriate to the types of universal wastes. Often done in conjunction with annual hazardous waste training as a good management practice. See OAC 3745-273-16*
- *Prohibited from disposing and, in most cases, diluting or treating universal wastes. See OAC 3745-273-11*
- *Not required to notify Ohio EPA of activities or to obtain a U.S. EPA ID number. See OAC 3745-273-12*



Universal Waste (cont.)

Other info. for SQUWHs (cont.)

- *Must immediately respond to all releases appropriately. See OAC 3745-273-17*
- *In general, CESQGs do not have to follow the accumulation, shipping, and training requirements for universal wastes, but handlers typically do as a good management practice. See OAC 3745-273-08*
- *Remember to review and understand your facility's site-specific universal waste procedures/work instructions*
- *For more information, refer to the files on your USB flash drive, contact SGE, or visit Ohio EPA's website at <http://www.epa.state.oh.us/Default.aspx?tabid=3915>*



***Time for Some
Trivia!!***

Unofficially, how many times has the Ohio State men's team appeared in the Final Four of the NCAA Division I college basketball tournament?

Answer: 10

The team appeared in the Final Four of the tournament in 1939, 1944 – 1946, 1960 – 1962, 1968, 1999, and 2007. They vacated their appearance in 1999 as punishment for the actions of former coach Jim O'Brien.

North Carolina and UCLA both have 18 appearances. Duke has 15. Kentucky has 14. Kansas has 13. Indiana, Michigan State, and Louisville have 8.

Used Oil

- *The used oil rules describe how to properly manage used oil. Because used oil is a reusable resource, the used oil regulations were developed to promote recycling*
- *For a material to be considered a used oil, it must be an oil that is petroleum-based or synthetic and through use has been contaminated with physical or chemical impurities. See OAC 3745-279-01(A)(12)*



Used Oil (cont.)

- *Some examples of used oil include:*
 - *engine oils from vehicles and equipment;*
 - *lubricating oils;*
 - *brake fluids;*
 - *transmission fluids;*
 - *hydraulic fluids;*
 - *insulating oils;*
 - *metal cutting fluids;*
 - *industrial process oils; and*
 - *compressor/refrigerant oils*



Used Oil (cont.)

- *Used oil does not include:*
 - *oil products;*
 - *cleanup material from oil product spills;*
 - *animal or vegetable oils;*
 - *antifreeze;*
 - *kerosene; or*
 - *petroleum distillates used as solvents*



Used Oil (cont.)

Used oil generator requirements

- *Store used oil in containers or tanks that are in good condition and not leaking (i.e., no severe rusting, apparent structural defects, or deterioration, and no visible leaks). See OAC 3745-279-22(A) and 3745-279-22(B)*
- *Clearly label containers or tanks of used oil with the words “Used Oil”. Don’t use the words “Waste Oil”. Fill pipes used to transfer used oil into underground storage tanks must also be labeled. See OAC 3745-279-22(C)*



Used Oil (cont.)

Used oil generator requirements (cont.)

- *If there is a release of used oil, stop the release, contain it, clean it up and properly manage the cleanup materials, and repair or replace. See OAC 3745-279-22(D)*
- *Use a transporter with a U.S. EPA ID number when shipping used oil off-site. See OAC 3745-279-24*



Used Oil (cont.)

Other used oil generator info.

- Do not mix used oil with other wastes as this might cause the whole mixture to become a hazardous waste. See OAC 3745-279-10*
- Used oil regulations presume used oil will be recycled/reused. If used oil cannot be recycled, it must be evaluated to determine if it is a hazardous waste*
- Do not throw used oil on the ground, down the sewer, in a septic tank, down a floor drain, or in the trash dumpster*



Used Oil (cont.)

Other used oil generator info. (cont.)

- *CESQGs are not exempt from used oil requirements*
- *There are not separate generator/handler categories similar to hazardous wastes and universal wastes*
- *Remember to review and understand your facility's site-specific used oil procedures/work instructions*
- *For more information, refer to the files on your USB flash drive, contact SGE, or visit Ohio EPA's website at <http://www.epa.state.oh.us/Default.aspx?tabid=3923>*



***Time for a Quick
Quiz***

Open Discussion

- *USB flash drives*
- *Workshop attendance sheet*
- *Workshop evaluations*
- *Thank you for attending the workshop*
- *Feel free to contact SGE anytime*
 - *Cory Sander @ 614-917-3074 or Cory@SanderGroupEnv.com*
- *Stay around after the workshop for questions or comments*
- *Enjoy the holidays. Hope to see you or talk to you again soon*

