Summer 2005

Ohio Hazardous Waste Notifier

A Publication of Ohio EPA, Division of Hazardous Waste Management

Hazardous Waste Permit Duration to Change

Electronic Waste Management

New Uniform Hazardous Waste Manifest

Transporters Puzzle

Reducing Waste from Solvent-based Parts Washers

Laboratories Puzzle Answers

Hazardous Waste Permit Duration to Change from Five to 10 Years

By Jeff Mayhugh, Supervisor, Regulatory Services Unit

House Bill (HB) *432*, which became effective on April 15, 2005, changed Ohio Revised Code (ORC) *§3734.02* (E)(2) by increasing the maximum duration of a hazardous waste installation and operation permit from five to 10 years. On March 29, 2005, Ohio EPA proposed to amend Ohio Administrative Code (OAC) rule *3745-50-54*, Duration of Permits, to reflect the change in state law (ORC). The OAC rule change should become effective in late June or early July, affecting permits issued after the rule's effective date. It is possible to request a modification to your permit, through OAC rule *3745-50-51*, to extend its duration to the 10-year maximum. DHWM views such a modification request as a Class 1 permit modification requiring Ohio EPA's director's approval. The maximum duration of your modified permit cannot exceed 10 years from the date of issuance.

Additional information about the rule change is available *online*.

Save the Date!

On October 18, 2005 Ohio EPA will host the first annual **Compliance Assistance Conference: *Successfully Navigating Reporting, Permitting and Inspections*** in Columbus. Mark your calendars and plan on attending to gain a better understanding of the environmental requirements that apply to you. Conference topics include:

- Overview of Hazardous Waste Requirements
- Used Oil and SPCC Plans
- Storm Water Permits
- Identifying Whether You Need an Air Permit
- Air and Water Permits: Typical Reporting Requirements
- How to Prepare for an Ohio EPA Inspection
- What's on the Horizon at Ohio EPA .... and more!

We think this conference will be particularly helpful for small and medium size businesses needing to know more about how to comply. Additional conference details and registration information are forthcoming. For updates, visit the Agency Web site at *www.epa.state.oh.us*.

Can My Business Manage Our Electronic Waste the Same Way We Manage Our Lamps?

By: Andy Kubalak, Regulatory Services Unit

In Ohio, electronic waste is categorized differently than lamp waste; therefore, you cannot manage your electronic waste the same way you manage lamp waste.

Electronic equipment may include computers, fax machines, copiers, cell phones, telephones and television sets.

If you are disposing of your electronic equipment, you must first determine if it is a hazardous waste. If you are recycling your electronic equipment, it is not regulated as hazardous waste.

Hazardous lamps, on the other hand, remain hazardous waste, even when recycled and may be managed under the universal waste rules.

There has been some confusion about the difference between the regulation of lamps and electronic equipment. This may be because prior to December 7, 2004, Ohio EPA's Division of Hazardous Waste Management (DHWM) had a different regulatory designation for hazardous waste lamps. This designation removed lamps from regulation as wastes and therefore hazardous wastes when they were reclaimed. On December 7, 2004, we adopted a new rule that changed our regulatory designation for hazardous waste lamps. Under this new rule, lamps remain hazardous waste even when recycled. Now hazardous waste lamp generators have the option of handling lamps as hazardous waste or universal waste. If you plan to manage your lamps under the hazardous waste rules [Ohio Administrative Code (OAC) Chapter *3745-52*] and plan to dispose of your lamps, you must first evaluate the lamps according to OAC rule *3745-52-11*.

We have *not* changed our classification of electronic equipment that you can no longer use nor have we added electronics to our universal waste rule. So as noted above, computers and electronic equipment are removed from regulation as wastes and therefore hazardous waste when they are reclaimed (e.g. (recycled, including donating it for reuse).

However, if you plan to dispose of your electronic waste, you must determine if it is hazardous. OAC rules *3745-51-20 through 3745-51-24*, describe the characteristics of hazardous waste. Equipment that you dispose of that exhibits a characteristic of hazardous waste must be managed according to Ohio's hazardous waste regulations for your generator category.

Electronic equipment exhibiting a characteristic of a hazardous waste is still considered to be a characteristic byproduct when it is recycled.

Unused, defective computers and electronic equipment are considered to be commercial chemical products when recycled.

Recyclers will disassemble electronic equipment to recover components such as memory boards, disk drives, video cards, micro-processor chips and batteries. Plastic or glass components may be recycled into new products. Metals can be separated and sent to smelters where they are melted and used to make new products. Ohio's hazardous waste rules do not require a facility that recycles electronic equipment to obtain a hazardous waste permit; however, all waste generated by the recycling process must be evaluated and properly managed. Also, if the recycler uses or sells any part of the electronic equipment for use on the land or as an ingredient in a product that is placed on the land, the electronic equipment is subject to the hazardous waste rules.

A *list of computer and electronic recyclers* is on the Division of Hazardous Waste Management Web page.

For more information on how to manage your electronic waste, please read our guidance document, *Electronic Waste from Businesses*.

If you have questions about Ohio hazardous waste regulations that apply at your company, call (614) 644-2917 to speak with a regulatory services specialist.

New Uniform Hazardous Waste Manifest

By Karen Hale and Rose McLean; additional edits by Lindsay Brown

On March 4, 2005, U.S. EPA published the final rules revising the hazardous waste manifest in the *Federal Register*. The *new manifest* will become mandatory in all states, eliminating separate versions for each state. New requirements for hazardous waste generators and transporters are located in 40 Code of Federal Regulations (CFR) Parts *262*-*263*. Related requirements for owners and operators of treatment, storage and disposal (TSD) facilities in Parts *264* and *265* also are affected, along with state requirements in Part *271*.

The manifest will become effective on Sept. 5, 2006, and must be used by all large and small quantity hazardous waste generators, hazardous waste transporters and permitted hazardous waste TSD facilities. There will be a transition period from Sept. 5, 2005, to Sept. 4, 2006, during which you must use the old manifest form when transporting hazardous wastes.

U.S. EPA delayed the compliance date of the new manifest to allow time for the regulated community to use its old manifests, for states to adjust their programs and for new manifest printers to register with U.S. EPA.

New requirements' goals:

- Standardize the content and appearance of *the manifest form and continuation sheet* (Forms 8700-22 and 22a);
- Make the forms available from a greater number of sources; and
- Adopt new procedures for tracking certain types of waste shipments with the manifest. These types of shipments include hazardous wastes that destination facilities reject, wastes consisting of residues from non-empty hazardous waste containers and wastes entering or leaving the U.S.

Standardize the Content and Appearance

State-by-state variability in the contents (data fields) of the current hazardous waste manifest form, including the existing "state optional" boxes will be eliminated. The rule also eliminates the requirement to obtain state-specific manifest forms and instructions. With the exception of allowance for state-specific hazardous waste codes on the hazardous waste manifest form, the form is now completely standardized by the final rule.

Make the Forms Available from a Greater Number of Sources

Generators, transporters and TSDs will be able to obtain new forms from any source that has registered with U.S. EPA to print and distribute the form. Neither U.S. EPA nor Ohio EPA will distribute forms; rather, U.S. EPA will oversee the printing requirements and ensure that registered printers follow them. A list of entities that have been approved to print and distribute the form will be maintained so that the public may acquire forms from an approved printer. States may register to print the new form, but state rules cannot establish the state as the exclusive form source. You can use a manifest from any registered source.

Adopt New Procedures for Tracking Certain Types of Waste Shipments with the Manifest

Data fields that have been *removed* are:

- State-specific generator's identification (ID) number;
- State transporter's ID number;
- First transporter's phone number;
- First transporter's state ID number;
- Second transporter's phone number;
- Second transporter's state ID number; and
- State facility's ID number

Data fields that have been *added* are:

continued on page 4...

continued from page 3

Waste codes

Generators will now be required to provide the RCRA waste codes for each waste stream. The manifest form has space for six codes per waste stream. The continuation sheet is to be used if more than six waste codes apply to the waste.

Special Handling Instructions and Additional Information

This item is to be used to capture information necessary for properly managing or tracking wastes (for example, waste profile numbers, container codes, response guide numbers, chemical names, specific gravity, tracking of rejected loads). This item is not to be used as a "catch-all" information collection item for states and is not to be used to collect information to meet state regulatory requirements.

Generator's Site Address

The address of the site where the waste was actually generated should be entered in this field when it is different from the mailing address.

Emergency Response Phone Number

The phone number provided must belong to the generator or other agency or organization that accepts responsibility for providing detailed information about each waste in the shipment. If different emergency contacts are necessary for different wastes in the shipment, then the emergency response phone number for each waste must be provided immediately following the shipping description.

Each number also must correspond to a phone that is monitored 24 hours per day while the waste is in transport. The person assigned to this phone must have either personal knowledge or immediate access to a person with knowledge of the material being shipped, as well as comprehensive emergency response and spill cleanup information.

International Shipments

Information pertaining to the import and export of hazardous wastes must be recorded in this data field. The primary exporter must check the export box and provide the name of the city and state from which the wastes exited the U.S.

The hazardous waste importer initiates the manifest. He also must check the import box and provide the name of the city and state where the waste entered the U.S. Also, the facility receiving the imported waste, not the importer (unless they are the same), must send U.S. EPA a copy of the manifest that accompanied the waste.

Hazardous Waste Report Management Method Codes

The management method code describes how the hazardous waste was handled at the receiving permitted hazardous waste facility. It is the receiving facility's responsibility to enter the appropriate management code on the manifest.

The set of management codes to be used to complete the manifest are the same process codes used to complete the hazardous waste biennial report. These codes are listed in the preamble to the final rule or may be found in the instructions to U. S. EPA's hazardous waste biennial report or *Ohio's annual hazardous waste report*.

For more information about changes to the universal waste manifest:

- See U.S. EPA's Web page on the *new manifest rule*;
- Check out U.S. EPA's fact sheet: *Hazardous Waste Manifest System Streamlined*; or
- Read the *Federal Register* Notice: *Federal Register* - March 4, 2005
  (NOTE: the Manifest Form is not in the *Federal Register*, because a correction is in progress. It will be posted on this page as soon as it is available).

Transporters

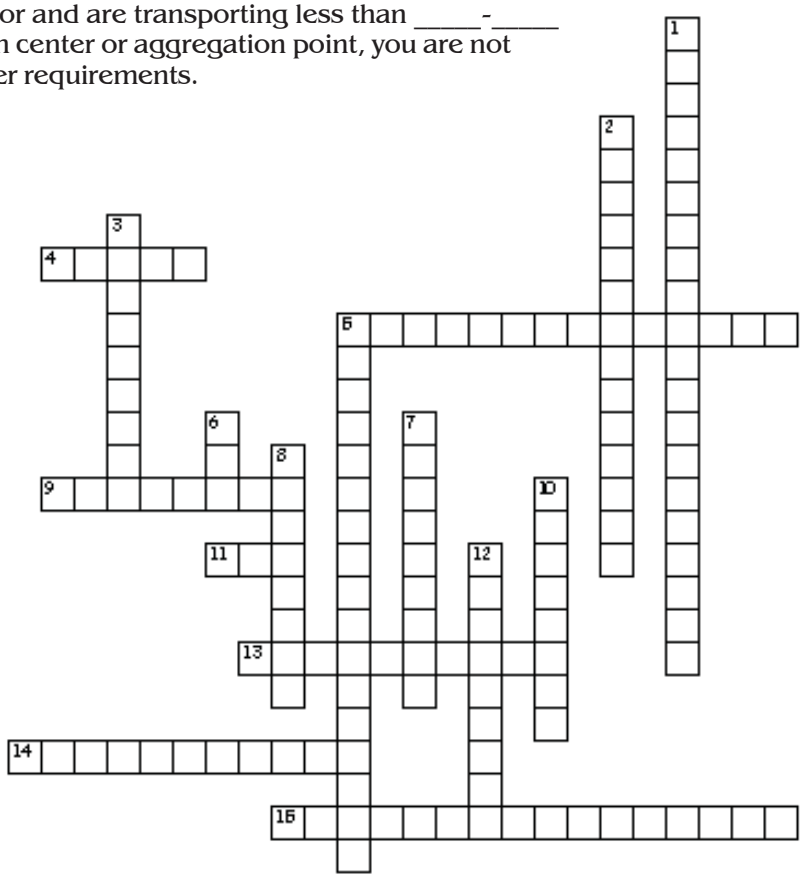
By: Rose McLean, Regulatory Services Unit

Across

4. If you have a _____ of used oil during transportation, call Ohio EPA's Division of Emergency and Remedial Response.
5. _____ transporters are required to obtain a U.S. EPA identification number. (two words)
9. In Ohio, hazardous waste transporters are required to _____ with the Public Utilities Commission of Ohio.
11. Storage of universal waste by a universal waste transporter at a universal waste transfer facility may be done for _____ days or less.
13. Hazardous waste must only be delivered to the _____ facility.
14. Universal waste handlers may act as their own ____ if they comply with Ohio Administrative Code (OAC) rules 3745-273-50 through 3745-273-56.
15. A hazardous waste transporter may store waste at a _____ for 10 days or less. (two words)

Down

1. A used oil transporter must obtain a U.S. EPA _____. (two words)
2. Hazardous waste transporters may accept hazardous waste only in accordance with the _____. (two words)
3. A universal waste transporter is prohibited from ____, diluting or treating universal waste.
5. waste transporters may transport universal waste from one ___ to another.
6. A universal waste transporter must comply with all applicable ____regulations.
7. A manifest must _____ the hazardous waste at all times.
8. If you store used oil from your own transporting operations for more than 24 hours, but less than 35 days, you are considered a used oil ____ facility.
10. Shipments and deliveries of used oil by transporters must be _____ and maintained for at least three years.
12. If you are a used oil generator and are transporting less than _____-_____ gallons of used oil to a collection center or aggregation point, you are not subject to the used oil transporter requirements.



Save Money by Reducing Waste from Stand-alone Solvent-based Parts Washers

By: Helen Miller, Inspection Support Unit

Who uses stand-alone solvent-based parts washers?

Businesses that use small, standalone solvent-based parts washers range from small auto service stations to large industrial facilities.

How do these units work?

These units usually consist of a cleaning basin, solvent reservoir and recirculating system. Their capacity can range from three to 45 gallons of solvent. While in the unit, dirty parts are rinsed with a solvent while the operator brushes oil, soil or grease from them. Various solvents can be used in the units, including petroleum-based solvents such as mineral spirits, stoddard and petroleum naphtha or organic solvents like trichloroethane, trichlorethylene, benzene and xylene.

How can you reduce the amount of waste generated from parts washers?

Increase the life of the solvent.
This will reduce your disposal costs. It can be done by pre-cleaning the part, increasing the time between solvent change-outs and filtering or distilling spent solvent.

Evaluate switching to a solvent with a higher flash point.
This may allow you to manage and dispose of your waste solvent as a non-hazardous waste. There are many alternative solvents available with flash points above 140 F. This would only reduce the amount of *hazardous* waste generated, not the amount of *waste* generated

Evaluate switching to an aqueous-based alkaline cleaner or a bio-remediating parts washer.
This will reduce or eliminate the need to replace the parts washing fluid. A bio-remediating parts washer uses a heated water-based detergent/microbe solution to remove oil and grease from the parts. Once the oil and grease are removed, specially developed microbes literally eat the oil and grease.

How do I increase the life of the solvent?

Pre-clean the part
This prevents some of the bulk "dirt" from getting into the parts washer. Before placing the dirty part in the cleaning basin, pre-clean it with a wire brush, squeegee or scraper. Or, use a two-stage cleaning system. Designate one washer with the dirtiest solvent for the "dirtiest parts" to be used first. Then, follow up with the "cleaner" parts washer for the final cleaning.

Increase the time between solvent change-outs
Many companies have found that extending the period between pick-ups can be done without sacrificing cleaning quality. If you are using a contract service, schedule pickups when the solvent no longer cleans your parts.

continued on page 7...

Reducing Waste
continued from page 6

Filter the solvent

A filter unit can increase the life of the solvent by 350 to 600 percent and reduce the solvent waste stream by 50 to 80 percent. Filter cartridge life can range from four to 12 weeks, depending on the situation. Some companies claim that solvent life can be extended to more than three years by using a filter. If you are in the market for a new parts washer, you may want to consider purchasing a unit with a built-in filtering unit. If you have a parts washer that is working fine, you can add on a commercial filtration unit or build one yourself. Many manufacturers sell add-on filter units ranging from $60-150 (not including replacement filter cartridges).

The Iowa Waste Reduction Center (IWRC) recently published a four-page brochure, "Adding a Filter to Your Parts Washer." This brochure has step-by-step instructions and photos to illustrate how to do this in a few hours for less than $50 using an auto/truck oil filter or a fuel filter. IWRC also performed tests to see whether flow was restricted after adding a filter and found no measurable decrease even after considerable "gunk" had accumulated in the filter. This *brochure* is available online.

You still must determine whether the used filters you generate are hazardous waste. Depending on what you are cleaning, the filters can pick up heavy metals such as cadmium, chromium and lead. If metals are detected above regulatory levels, you must dispose of the filters as hazardous waste.

Success Story
The Naval Air Station Patuxent River (NAS) found that using a parts washer with a filtration system extended the life of the solvent three to five years. Without the filters, the spent solvent was disposed every six to eight weeks.

Use a solvent distillation unit

Distillation units can be purchased as stand-alone units or as parts washing units with built-in distillation units. Units generally consist of the process chamber, or boiler, encapsulated heaters, an air-cooled condenser, associated piping and instrumentation. They heat the waste solvent to its boiling point, evaporating the solvent and condensing solvent vapors in a separate container. The remaining contaminants, called "still bottoms," are sometimes processed into fuel for energy recovery or disposed. Businesses also can use an outside recycler that takes the solvent off-site to distill, then returns the distilled solvent. It may be worthwhile to consider purchasing solvent recycling equipment that can be used on-site. By distilling waste solvents you can reuse them.

Before you consider buying a unit or contracting with an off-site service, you should evaluate whether the spent solvents you generate can be cost-effectively recycled by distillation.

Issues to consider are:

- *Is distillation the right technology?* Distillation efficiently separates similar liquids. If solid particles are the main contaminant, filtration may be the more appropriate technology.

- *Can the distilled solvent be used again for the same process?* If not, is there another process in which the solvent can be used? If your business uses a blended solvent, and the solvents have a wide range of boiling points, distillation will yield a solvent different from the original blend.

- *What is the percentage of solids or other contaminants in your waste?* Some still manufacturers claim a high solvent recovery percentage (90-95 percent). If your waste is not mostly solvents, this method may not be cost effective.

continued on page 8...

- *Will you have to segregate the different waste solvents generated in order to use the unit?* If you are currently blending solvent waste streams, simple batch distillation will produce a mixed solvent product that may not be useable for any of the current solvent uses. You may have to implement procedures to prevent mixing solvents.

- *Do you use a solvent with a very high boiling point?* If so, a vacuum distillation unit may be required because of the risk of fire or explosion. Vacuum distillation can add significantly to the purchase price and operating costs.

Distillation unit vendors can help you determine the feasibility of distillation at your business. They also may be willing to recycle a sample of your waste to demonstrate the effectiveness of the process and to determine the characteristics of the recycled solvent. The cost of a small solvent distillation unit generally starts at about $2,000.

The *Winter 2003 and Spring 2004* issues of the Notifier contain detailed articles about the solvent distillation process, regulatory considerations and vendor information.

Success Story

The Texas Army National Guard purchased four distillation units for approximately $15,000 per unit. The units are designed to recycle up to 50 gallons of solvent in an eight-hour period. Depending on the boiling point and solvent contamination, the unit can recover up to 125 gallons in a 12- to 16-hour period. Over a five-year period, more than 10,000 gallons of solvent were recycled for reuse, saving approximately $164,000. Disposal of the spent solvent would have cost $72,500 and the purchase of new solvent would have cost $91,400.

Why switch to a solvent with a higher flash point?

Manage your solvent as non-hazardous waste

Many solvents are hazardous due to the characteristic of ignitability. This means that the solvent has a flash point of less than 140 F. By using a solvent with a higher flash point, you may be able to manage your spent solvent as non-hazardous waste, reducing your environmental liability, regulatory paperwork and training requirements. However, be aware that disposal costs may be comparable to hazardous waste disposal because the spent solvent will be handled through a waste service for recycling, fuel blending or incineration.

There are suppliers who sell solvents with flash points of greater than 140 F. These solvents may include light aliphatic naphtha or hydrotreated light petroleum distillates that have been processed or blended. These types of solvents with higher flash points can be used to clean oils, greases and soils from various types of metals.

If your current solvent supplier sells the higher flash point solvents, ask whether you can try one on a trial basis. You also may try using a vendor database to locate companies offering these products. The University of Minnesota's Technical Assistance Program (*MnTAP*) has an on-line vendor list. The Iowa Waste Reduction Center (*IWRC*) also has an on-line vendor database.

continued on page 9...

Success Stories

A 30-employee school-district transportation center in Colorado switched from a stoddard-based solvent, with a flash point of 105 F, to a straight chain aliphatic hydrocarbon solvent with a flash point of 143 F. The solvent was filtered to extend its life one to two years. The payback for switching took about three years with a reduced cost of about $250 per year. Major benefits included reduced hazardous waste generation and associated liabilities and a more positive business image.

The U.S. Air Force Academy switched to a mixture of a straight chain aliphatic hydrocarbon solvent with a flashpoint of about 150 F with a filtration system. Previously, their 20 parts washers had been changed out every six to 12 weeks and averaged 24,000 pounds of hazardous solvents per year. After changing solvents, they generated 1,840 pounds of spent filters and solvent during a six-year period, compared to 144,000 pounds using old solvent.

Tips to maintaining solvent as non-hazardous

- Don't use chlorinated aerosols over the parts washer (such as brake, carburetor or engine cleaner). According to the mixture rule, adding any amount of RCRA F-listed solvent, such as methylene chloride, 1,1,1-trichloroethane, trichlorethylene or a non-halogenated solvent (methyl ethyl ketone, toluene or benzene) can make the entire batch of waste solvent hazardous; therefore, it must be managed as a hazardous waste.

- Don't contaminate non-hazardous solvent with a low flash point substance (less than 140 F) such as naphtha, mineral spirits, gasoline or kerosene. If enough of the low flash point substance is added, it can lower the flash point of the entire batch.

Why switch to a bioremediating parts washer?

Replace your solvent with a bioremediating solution

An enzyme bioremediation parts washer can replace traditional solvent use in many parts cleaning and degreasing operations. The parts washer uses a neutral mixture of emulsifiers, surface active agents and safe microbes to break down oil, grease and dirt in a manual, self-contained system.

Switching to a bioremediating parts washer allows you to eliminate the use of harmful solvents. It also eliminates the disposal of waste solvent as hazardous waste.

Success Story

U.S. Army's Fort Wainwright Public Works Mobile Equipment Maintenance Repairs (MEMR) shop is using a parts washer that incorporates a nontoxic, nonflammable degreasing solution instead of more traditional solvents. The process eliminated the need for approximately 100 gallons of solvent per year. As a result of this process, the MEMR saved $600 per year in solvent disposal fees. The unit paid for itself in less than a year.

continued on page 10...

Reducing Waste
continued from page 9

What are the benefits of waste minimization?

- Over time, the amount of solvent you need to purchase should decline; therefore, you save money on raw material purchases and the disposal cost of spent solvent.

- You may be able to reduce the amount of hazardous waste generated and stored on-site. This could change your generator status [from large quantity generator (LQG) to small quantity generator (SQG) or conditionally exempt small quantity generator (CESQG)], reducing your regulatory burden (paperwork, training requirements, etc.) and long-term liability.

- By increasing the cleaning performance of your solvent, employees can spend time on other tasks.

Waste minimization tips for parts washers

- Keep parts washers closed and spray nozzles off when not in use to reduce solvent evaporation.

- Place parts washers away from heat sources and drafts to prevent evaporation.

- Drain all parts completely to reduce drag-out cleaning fluid loss. You may want to install a drainage shelf on your unit.

- Evaluate the number of parts washers your facility has and eliminate low-use washers.

- Maintain the parts washer as needed (changing filters, monitoring solvent and adding solvent as needed).

If you have additional questions regarding parts washers, please contact your *district office* hazardous waste inspector. Our hazardous waste inspectors offer technical assistance to businesses by helping them identify ways to generate less waste. To learn more about pollution prevention, visit Ohio EPA's Office of Compliance Assistance and Pollution Prevention Web site (*OCAPP*).

References

Managing and Reducing Parts Washer Wastes, Illinois Office of Small Business, 2004, *www.epa.state.il.us/small-business/parts-washer-wastes/*

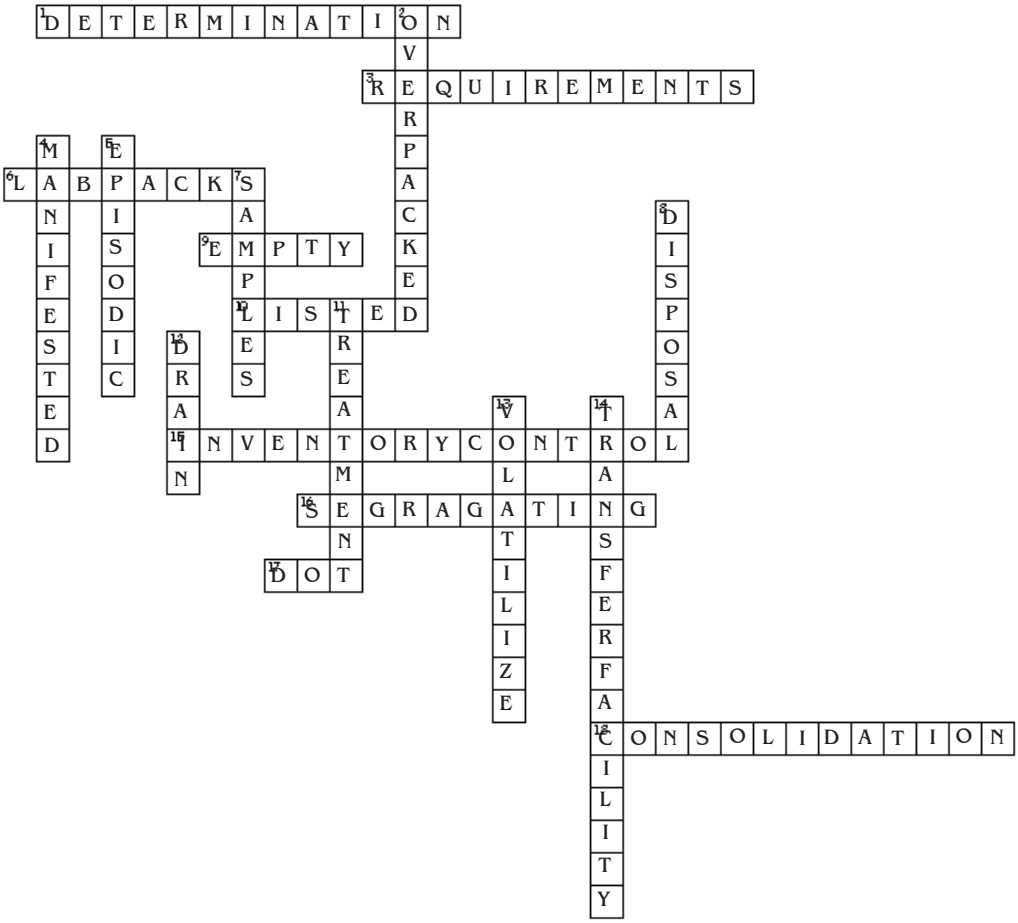
Waste and Cost Reduction Techniques for Small Parts Cleaners, North Carolina Division of Pollution Prevention, 2000, *www.p2pays.org/ref/01/00024.htm*

Adding a Filter to Your Parts Washer, Iowa Waste Reduction Center (IWRC), *www.iwrc.org/programs/PartsWashInstallSinglPg.pdf*

Other Resources

You may find helpful the on-line training for *industrial parts cleaners* located on OCAPP's Web site.

Laboratories puzzle answers



New Guidance Documents

We recently issued updated versions of the *Hazardous Waste Generator Handbook* and the *Closure Plan Review Guidance* (CPRG) documents. Both of these documents are available on our Web site.

Ohio Hazardous Waste
Notifier

Bob Taft, Governor
Joseph Koncelik, Director

Editor:
Rose McLean

Contributors:
Lindsay Brown,
Karen Hale,
Andy Kubalak,
Jeff Mayhugh,
Rose McLean,
and **Helen Miller**

Editorial Assistance:
Carol Hester and
Darla Peelle

Graphics and Layout:
Pattie Rhodes-Mehrle

Ohio EPA is an
Equal Opportunity Employer
Printed on Recycled Paper