

# Environmental Compliance Guide for Ohio Dry Cleaners



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## Introduction

Dry cleaners provide a valuable cleaning service. Because of the chemicals used, dry cleaners generate hazardous waste, air emissions and wastewater and must comply with Ohio EPA's regulations. If you are a dry cleaner, you need to be aware of these regulations, to help ensure that you are operating in compliance and with the proper permits.

This guide will help you identify:

- common wastes from dry cleaning;
- environmental regulations and permit requirements for dry cleaners; and
- options to reduce dry cleaning wastes and emissions.

Table 1 summarizes the wastes, air emissions and water discharges commonly generated by dry cleaning operations. These are regulated because of the solvents used in dry cleaning, primarily perchloroethylene (also known as perc or tetrachloroethylene) and petroleum solvents (for example, Stoddard solvent).

**Table 1**  
**Wastes Discharges and Emissions from Dry Cleaning Operations**

<b>Hazardous Wastes</b>
<ul style="list-style-type: none"><li>• Spent solvents</li><li>• Spent carbon and cartridges from adsorbers</li><li>• Still residues (sludge)</li><li>• Filter powder (muck)</li><li>• Filters and filter media</li><li>• Discarded chemicals</li><li>• Most separator water</li></ul>
<b>Air Emissions</b>
<ul style="list-style-type: none"><li>• Solvent spills</li><li>• Leaks from piping</li><li>• Vapors released during clothing removal</li><li>• Vapors released from equipment, including dryers</li></ul>
<b>Wastewaters</b>
<ul style="list-style-type: none"><li>• Water from separators (routed from condensers, cartridge strippers, stills and muck cookers)</li></ul>



## Environmental Regulations for Dry Cleaners

### Hazardous Waste

Any business generating wastes must evaluate them to determine if they are hazardous wastes under Ohio's EPA's regulations. There are specific regulations on how hazardous waste needs to be handled at your shop. There are also recordkeeping requirements. All hazardous wastes must be sent off site to a permitted hazardous waste disposal facility.

There are two ways in which your waste can be classified as a hazardous waste:

#### Listed hazardous wastes

If your waste appears on any one of the lists published in Ohio's hazardous waste regulations ([www.epa.state.oh.us/dhwm/rules.htm](http://www.epa.state.oh.us/dhwm/rules.htm)), it is a hazardous waste. There are four different types of listed wastes (F, K, P or U wastes). Each waste on the list has a designated EPA hazardous waste code.

### Characteristic hazardous wastes

If your waste is not on any of the lists in Ohio EPA's regulations, it may still be classified as hazardous waste because it has a hazardous characteristic. There are four characteristics that cause a waste to be regulated as hazardous: ignitable, corrosive, reactive or toxic. Characteristic hazardous wastes carry an EPA waste code beginning with "D" (for example, D001, D002). See Table 2 for common hazardous wastes from dry cleaning and EPA waste codes.

When evaluating your wastes, you can use resources such as vendor information, Material Safety Data Sheets or other product information. In many cases, these resources and your knowledge of the waste will be sufficient to characterize the waste without needing a lab analysis. If you don't have enough process information to evaluate a waste, you must have the waste sampled and sent to a lab for analysis.

**Table 2  
Common Hazardous Wastes from Dry Cleaning and EPA Waste Codes**

Hazardous Waste	EPA Waste Code
Process waste and spent materials containing perc. Examples: <ul style="list-style-type: none"> <li>• Still residues from solvent distillation</li> <li>• Spent filter cartridges</li> <li>• Muck</li> <li>• Cooked powder residue</li> <li>• Button/lint trap waste</li> </ul>	F002 (listed)
Unused perc that you send off for disposal	U210 (listed)
Other wastes coming into contact with perc solvent during the process, such as maintenance residues and spill clean up materials.	F002 (listed)
Non-perc waste solvents with a flash point below 140 degrees F. (Examples: Stoddard solvent or petroleum distillates)	D001 (characteristic)
Separator water containing 0.7 ppm or greater of perc (See text box on separator water.)	D039 (characteristic)

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You must keep all your waste evaluation information on file at your business to show how you determined whether your waste streams are hazardous or non-hazardous.

### Lamps

Lamps (for example, fluorescent bulbs) can be hazardous because of the mercury, lead and cadmium they contain. You can manage your hazardous waste lamps under the universal waste (UW) rules instead of the hazardous waste rules. The UW rules eliminates many regulatory requirements such as waste evaluation, manifesting and record keeping. These rules ensure that waste lamps will be properly recycled. Fewer requirements also means lower compliance costs. More information on universal waste can be found at [www.epa.state.oh.us/dhwm/guidancedocs.html#UW](http://www.epa.state.oh.us/dhwm/guidancedocs.html#UW).

### IMPORTANT

Make sure you have evaluated all your waste streams to determine if they are hazardous. **Do not** throw anything in your dumpster unless you have confirmed that it is not a hazardous waste.

### Hazardous Waste Generator Categories

What hazardous waste management requirements you need to comply with depends on your hazardous waste generator category. There are three categories, defined by the quantity of hazardous waste generated each calendar month. Each category has a different level of regulations to comply with, from few for very small generators to many for large. There are also time and quantity limits for hazardous waste storage. Table 3 includes generator categories and storage limits. Most dry cleaners are classified as SQGs or CESQGs.

**Table 3**  
**Hazardous Waste Generator Categories and Storage Limits**

Generator Category	Amount of Hazardous Waste Generated in a Calendar Month	Storage Limits for Hazardous Wastes
Conditionally Exempt Small Quantity Generator (CESQG)	Less than 220 pounds (220 lbs = about 27 gallons, or about 1/2 of a 55-gallon drum)	Cannot store more than 2,200 pounds.  No time limit, unless you exceed 2,200 pounds. If this happens, you become a SQG and have 180 days to ship hazardous waste off-site.
Small Quantity Generator (SQG)	Between 220 to 2,200 pounds (2,200 lbs = 270 gallons, or about five 55-gallon drums)	Cannot store more than 13,200 pounds. 13,200 pounds is about thirty 55-gallon drums.  Cannot store hazardous waste for more than 180 days.
Large Quantity Generator (LQG)	More than 2,200 pounds (2,200 lbs = 270 gallons, or about five 55-gallon drums)	No limit on the quantity of hazardous waste that can be stored.  Cannot store hazardous waste for more than 90 days.

### Managing Your Separator Water

Perc can be recovered from vapors entering condensers, carbon adsorbers, cartridge strippers, stills and muck cookers in a water separator. However, the water drained from the top of a water separator (called separator water) is still contaminated with perc. Separator water is a hazardous waste when the perc level exceeds 0.7 parts per million (ppm). Separator water typically contains around 150 ppm of perc.

There are three options for managing separator water: (1) disposing of it as hazardous waste (2) evaporating it or (3) discharging it to a municipal wastewater treatment plant. **Never** discharge separator water to an on-site septic system or onto the ground.

Ohio EPA recommends sending separator water off site for disposal as a hazardous waste as the preferred and most environmentally safe option. However, you can also evaporate or atomize your separator water, if you meet all of the following conditions:

1. The system must include an activated carbon system or equivalent adsorption media to bring the concentration of perc below 0.7 ppm **before** evaporation or atomization.
2. You must have documentation from the manufacturer of your activated carbon system verifying that the unit will produce separator water with less than 0.7 ppm of perc. Otherwise, you will need to have samples analyzed by a lab (using the Toxicity Characteristic Leaching Procedure (TCLP)) to document that the activated carbon system produces separator water with less than 0.7 ppm of perc.
3. The evaporator unit must be closed and vented outside of the building. "Closed" means entirely connected with pipes to prevent emissions from escaping. Separator water can be collected in a closed container and then transferred to an evaporator. The container must be labeled with the words "hazardous waste" or other words that describe the contents, such as "separator water."
4. You must evaluate all spent carbon filters to determine if they are hazardous waste.
5. You must conduct regular maintenance on the evaporator and document these activities in a written log. You must keep the log for three years.
6. Any wastewater treatment system, such as an evaporator, requires a permit-to-install (PTI) from Ohio EPA's Division of Surface Water. You need the PTI before you install the evaporator.



If you are located on a public sewer system that discharges to a local wastewater treatment plant (called a POTW), you may be able to discharge your separator water directly to the POTW. You must contact your POTW and get written permission from them for this, **BEFORE** you discharge to them. See the wastewater section of this guide for more information. However, perc can migrate through concrete pipes or leak through broken pipes, contaminating the underlying soil and groundwater, which can result in costly environmental clean-ups. For this reason, many POTWs **will not** accept wastewater that contains perc and you are encouraged to use other disposal methods.

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### Conditionally Exempt Small Quantity Generator Requirements

If you are a **CESQG**, you must:

- 1) Evaluate all your wastes to determine if they are hazardous (and keep records in a file);
- 2) Send your hazardous wastes to a permitted hazardous waste facility; and
- 3) Limit hazardous waste stored on site to less than 2,200 pounds.

There are additional regulations for SQGs listed below. Although they don't apply to CESQGs, you may want to follow them. They are best management practices, especially container labeling and employee training.

### Small Quantity Generator Requirements

If you are a **SQG**, you must:

- 1) Notify Ohio EPA that you are a generator and get a hazardous waste identification number.

Notification forms are available from Ohio EPA's Division of Hazardous Waste Management online at [www.epa.state.oh.us/dhwm/notiform.html](http://www.epa.state.oh.us/dhwm/notiform.html).

(CESQGs are not required to get an identification number, although for tracking purposes, a transporter or disposal company may ask the CESQG to get one.)

- 2) Comply with these hazardous waste accumulation requirements:
  - SQGs can accumulate hazardous waste for up to 180 days. This can be extended up to 270 days, if waste is transported at least 200 miles to a treatment, storage or disposal (TSD) facility.
  - Don't accumulate more than 13,200 pounds of hazardous waste.

- 3) Properly manage hazardous waste containers. A container must be:

- marked with the date you started to put hazardous waste in it;
- labeled or clearly marked with the words *hazardous waste*;
- in good condition and made of or lined with materials compatible with the waste;
- closed, except when adding or removing waste;
- handled and stored to prevent a rupture or leak; and
- inspected weekly for leaks or deterioration (inspections must be documented in a log).



- 4) Complete paperwork and prepare containers for off-site shipment.

- Complete hazardous waste manifest forms.

The manifest goes with each shipment of hazardous waste when it is transported off site. You must keep copies of your manifests for three years.

- Complete Land Disposal Restriction (LDR) Notification.

SQGs must send a one-time LDR notification with their initial hazardous waste shipment to their treatment/storage/disposal (TSD) facility. The LDR form provides the TSD facility with information they need to ensure waste meets treatment standards before disposal. Most TSDs will help you complete the LDR form.

If your waste doesn't change and you use the same TSD facility, only a one-time notification is required. Your LDR form(s) must be kept for five years.

## Managing Hazardous Wastes and Generator Liability

Although you pay a waste disposal or recycling firm to manage your hazardous waste, as the waste generator, YOU are still liable for your waste even after it leaves your shop. Stay informed about how your wastes are managed. Complete appropriate shipping paperwork. Make sure it is being properly handled by a permitted disposal facility to avoid potential problems. This is important for all generators, regardless of how much you generate.

- Label, package and placard hazardous waste containers in accordance with Department of Transportation (DOT) regulations.

Please call the Public Utilities Commission of Ohio, Transportation Department (614) 466-0351, if you have any questions regarding these requirements.

### 5) Conduct personnel training.

SQGs must ensure that their employees are familiar with proper waste handling and emergency procedures relevant to their job duties. For example, how to properly clean muck traps and what to do if separator water is spilled. You are not required to have a formal training plan under Ohio EPA's regulations, but having one helps ensure that you will be able to demonstrate compliance.

### 6) Designate an emergency coordinator and post emergency information by the phone

- You must have at least one employee either on the premises or on call at all times designated as the emergency coordinator. The emergency coordinator or his designee must respond to any emergencies that arise.
- The following information must be posted next to a telephone that would be used for outside assistance in an emergency:

- Name and telephone number of the emergency coordinator;
- Location of fire extinguishers and spill control material, and, if present, fire alarm(s); and
- Telephone number of the local fire department.

### 7) Have emergency equipment available to respond to a hazardous waste-related emergency, such as portable fire extinguishers and spill control equipment. This equipment must be tested/inspected and maintained as necessary. You must keep a log of inspections.

This guide focuses on CESQG and SQG requirements for dry cleaners. If you are a large quantity generator (LQG), there are additional requirements. For more information, contact Ohio EPA, Division of Hazardous Waste Management (DHWM). You can also get Ohio DHWM's Hazardous Waste Generator Handbook, covering requirements for all generator categories, on-line at [www.epa.state.oh.us/dhwm/pdf/gen\\_handbook.pdf](http://www.epa.state.oh.us/dhwm/pdf/gen_handbook.pdf).

## Hazardous Waste Violations

### Frequently Found Violations

- Failure to evaluate wastes;
- Failure to label and date containers;
- Failure to keep containers closed and in good condition;
- Failure to maintain manifest and LDR documents;
- Failure to conduct inspections of hazardous waste containers and emergency equipment, and/or failure to keep logs of these inspections;
- Failure to designate an emergency coordinator;
- Failure to post emergency information by the phone.

### Serious Hazardous Waste Violations

- Disposing of dry cleaning wastes improperly (for example, throwing wastes in the trash);
- Drying out dry cleaning filters;
- Storing dry cleaning wastes in containers that are leaking or in poor condition;
- Keeping wastes on site for longer than the regulations allow.

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### Air Emissions

In Ohio, **all** dry cleaners using perc are required to obtain air pollution permits for their dry cleaning machines. If your machines use petroleum solvents instead of perc, you still need air pollution permits for your shop. If you use silicon-based products or a wet cleaning process, contact your district Ohio EPA office for more information.

#### IMPORTANT

If you are already operating your business and discover that you need an air permit, you must still complete and submit both the PTI and PTO applications.

A permit to install (PTI) is needed before installing a machine, and a permit to operate (PTO) is required to continually operate the equipment after installation. The permit application forms are available at [www.epa.state.oh.us/dapc/genpermit/drycleaning.html](http://www.epa.state.oh.us/dapc/genpermit/drycleaning.html).

Air permit applications are processed through your district Ohio EPA office or your local air agency. See the district office map on page 16 for contact information for your local air pollution control office.

It is very important that you read and understand the requirements of your permit. If the Ohio EPA inspects your facility, the air inspector will focus on your compliance with the permit requirements and any new requirements.

### Air Emission Classifications

EPA classifies dry cleaners according to (1) type of machines used, (2) date of machine installation, and (3) gallons of perc used annually. Table 4 outlines the different classifications.

To determine your classification, identify the type of machine(s) you have and your annual perc usage in gallons. Then determine if your machines are new or existing based on the installation date. A shop can have both new and existing machines.

**Table 4**  
**Air Emission Classifications for Dry Cleaners**

**Based on the amount of perc consumed on a 12-month rolling average**

Classification:	Machine Type		
	Only Dry-to-Dry Machines	Only Transfer Machines	Both Dry-to-Dry and Transfer Machines
<b>Small Area Sources</b>	less than 140 gallons	less than 200 gallons	less than 140 gallons
<b>Large Area Sources</b>	140 - 2,100 gallons	200 - 1,800 gallons	140 - 1,800 gallons
<b>Major Sources</b>	more than 2,100 gallons	more than 1,800 gallons	more than 1,800 gallons

**Based on machine installation date**

Classification:	Machine Installation / Rebuilt Date
<b>Existing source</b>	Before December 9, 1991
<b>New source</b>	After December 9, 1991

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Certain requirements apply to all perc dry cleaners, as shown on Table 5. Your classification determines your other air permit requirements. This guide focuses on permit requirements for small and large area source classifications (Tables 6 and 7). If you fit into the major source classification, contact your district Ohio EPA office or local air agency for more information.

**Table 5**  
**Air Permit Requirements for**  
**All Perc Dry Cleaners**

- Keep receipts for perc purchases and track the amount purchased each month.
- Keep perc and waste solvent in closed, non-leaking containers.
- Drain cartridge filters in their housing or in sealed containers for at least 24 hours.
- Keep machine doors closed except when loading and unloading.
- Operate and maintain equipment according to the manufacturer's instructions.
- Keep operating manuals and manufacturer's design specifications for each machine on site.
- Keep annual records of the amount, in pounds, of fabric dry cleaned with perc.
- Keep all records for a minimum of five years.

### IMPORTANT

In July 2006, the U.S. EPA amended national regulations for perc dry cleaning to include additional requirements for most drycleaners. These include phasing out transfer machines. You must also use a halogenated hydrocarbon detector or perc gas analyzer to check all equipment monthly for leaks. If your shop is located in a building with a residence\*, special requirements apply. Contact your district Ohio EPA office or local air agency for more information.

\*Residence means any dwelling or housing in which people reside excluding short-term housing that is occupied by the same person for a period of less than 180 days (such as a hotel room).

### EPA Notification Requirements for All Perc Dry Cleaners

Each dry cleaner that uses perc must submit the reports listed below to Ohio EPA. Forms for these reports are available at [www.epa.state.oh.us/dapc/genpermit/drycleaning.html](http://www.epa.state.oh.us/dapc/genpermit/drycleaning.html).

#### Initial Notification Report

This informs Ohio EPA that you are a perc dry cleaner, how much perc you use, and the type of machines you have. Due by June 18, 1994, for existing machines and 30 days after installation of new machines.

#### Compliance Report for Pollution Prevention

This report acknowledges that you understand the equipment leak detection requirements, good house-keeping practices, and will keep the required records. Due by June 18, 1994, for existing machines and 30 days after installation of new machines.

#### Compliance Report for Control Requirements

This report lets Ohio EPA know the types of control devices, such as refrigerated condenser, carbon adsorber, etc., present on your machines and what monitoring is required. Due by October 23, 1996, for existing machines and 30 days after installation of new machines.

#### Notification of Compliance Status Report

This report lets Ohio EPA know if you comply with the NEW requirements that became effective on July 27, 2006, including the requirement to have a halogenated hydrocarbon detector/perc gas analyzer to check equipment monthly for leaks. This report is due by **July 28, 2008**.

**Table 6**  
**Additional Air Requirements for Small Area Source Dry Cleaners**

**Existing small area sources (installed before December 9, 1991) must:**

- On a **biweekly** basis, inspect all equipment for *perceptible leaks*\*\* of perc. Equipment to be checked includes hose and pipe connections, fittings, couplings and valves, gaskets, seatings, pumps, solvent tanks and containers, water separators, muck cookers, stills, exhaust dampers, diverter valves and all filter housings.
- Repair any perceptible leaks with 24 hours, or if needed, order parts with two days and install them within five days of receipt.
- Keep records of all leak inspections and repairs.
- By **July 28, 2008**, remove any transfer machines from service.
- By **July 28, 2008**, begin using a halogenated hydrocarbon detector or perc gas analyzer to check all equipment monthly for leaks. This is in addition to the biweekly perceptible leak checks above. Leak checks performed with a halogenated hydrocarbon detector or a perc gas analyzer can count as a perceptible leak check.

**New small area sources (installed after December 9, 1991) must:**

- Comply with all conditions for existing small sources (The first part of Table 6).
- Use only closed loop, dry-to-dry machines.
- Use machines equipped with a refrigerated condenser that:
  - will not release perc vapors into the atmosphere while the drum is rotating. To ensure this, the air-perc vapor should be recirculated back through the machine without venting to the atmosphere (closed loop);
  - is equipped with a diverter valve to prevent air drawn into the dry cleaning machine when its door is open, from passing through the refrigerated condenser.
- Once a week, monitor the refrigerated condenser and record:
  - the refrigeration system high and low pressure during the drying phase to ensure they are within the machine's operating instructions;
  - if not equipped with refrigeration system pressure gauges, monitor the temperature of the exhaust on the outlet side of the refrigerated condenser. The temperature must be 45° F or less before the end of the cool-down or drying cycle while the gas-vapor stream is flowing through the condenser.
- If the refrigerated condenser temperature exceeds 45° F, make repairs within 24 hours or order parts within two days and install within five days of receipt; keep repair records;
- On a **weekly** basis, inspect all equipment for *perceptible leaks*\*\* of perc and make repairs (similar to existing small source, but on a weekly frequency).
- By **July 28, 2008**, remove any transfer machines from service.
- By **July 28, 2008**, begin using a halogenated hydrocarbon detector or perc gas analyzer to check all equipment **monthly** for leaks for machines installed prior to December 21, 2005. This is in addition to the weekly perceptible leak checks above. Leak checks performed with a halogenated hydrocarbon detector or a perc gas analyzer can count as a perceptible leak check. If the machine was installed after December 21, 2005, this monitoring must begin by **July 27, 2006**, or upon start up.
- Ensure that any machines installed after **December 21, 2005**, are non-vented, dry-to-dry machines equipped with a refrigerated condenser **and** secondary carbon adsorber.

\*\* perceptible leaks mean any perc vapor or liquid leaks that are obvious from: (1) odor of perc; (2) visual observation, such as pools or droplets of liquid; or (3) the detection of gas flow by passing the fingers over the surface of the equipment.

**Table 7**  
**Additional Air Requirements for Large Area Source Dry Cleaners**

**Existing large area sources must:**

- Comply with all conditions for existing small area sources, except perceptible leak checks must be performed **weekly**.
- Use a refrigerated condenser (or a carbon adsorber if machine was installed before September 22, 1993).
- If using a refrigerated condenser on a dry-to-dry machine, reclaimer, or dryer:
  - Follow operating, weekly monitoring, and repair requirements found for new area small sources (Table 6).
  - Transfer systems must use separate refrigerated condensers for controlling the perc air streams from the dryer/reclaimer and the washer.
- If using a refrigerated condenser on a washer:
  - Once a week, measure the inlet and outlet temperature of the refrigerated condenser and record the temperature difference.
  - If the temperature difference is less than 20° F, make repairs or adjustments and make a record of your actions.
- If using a carbon adsorber:
  - Do not bypass at any time;
  - Once a week, measure and record the concentration of perc in the carbon adsorber exhaust using a colorimetric detector tube or a perc gas analyzer. Take the measurement while the machine is venting to the carbon adsorber at the end of the last dry cleaning cycle prior to desorption or removal of the activated carbon. The concentration must be equal to or less than 100 ppm by volume.
  - If the concentration exceeds 100 ppm, make repairs within 24 hours or order parts within two days and install within five days of receipt; keep repair records.
- By **July 28, 2008**, remove any transfer machines from service.
- By **July 28, 2008**, begin using a halogenated hydrocarbon detector or perc gas analyzer to check all equipment **monthly** for leaks for machines installed prior to December 21, 2005. This is in addition to the weekly perceptible leak checks above. Leak checks performed with a halogenated hydrocarbon detector or a perc gas analyzer can count as a perceptible leak check. If the machine was installed after December 21, 2005, this monitoring must begin by **July 27, 2006**, or upon start up.

**New large area sources must:**

- Comply with the conditions for new small area sources (Table 6).

### Wastewater Requirements

Wastewater discharges from dry cleaning operations are regulated under Ohio's water pollution control laws.

#### Wastewater discharges to a local wastewater treatment plant

If you want to discharge to your local wastewater treatment plant (called a publicly owned treatment works, or POTW), contact them directly to check on local requirements and on whether you need a discharge permit from them. Because POTWs are not generally designed to treat wastewater containing chemicals and other contaminants from dry cleaning processes, you may be required to treat the wastewater before discharging to them.

Many POTWs are authorized by Ohio EPA to run their own programs to control what goes into the local sewers. Ohio EPA has a list of POTWs with approved pretreatment programs. You can contact Ohio EPA's Division of Surface Water to see if your POTW has an approved pretreatment program or view the list on the agency Web site ([www.epa.state.oh.us/dsw/pretreatment/web2a.html](http://www.epa.state.oh.us/dsw/pretreatment/web2a.html)). If your POTW does not have an approved program, Ohio EPA's Division of Surface Water is responsible for regulating dischargers and issuing permits.

#### IMPORTANT

Even if you have a small volume of wastewater or contaminants, you still need written permission from the POTW to discharge to them. You must provide them with information on your wastewaters, including the amount (gallons per day) of each of your various wastewaters and the concentration of pollutants (such as perc) expected to be present in your wastewaters.

Be aware that many POTWs will not accept wastewater that contains perc.

In addition local POTW requirements, if you will be installing a wastewater holding tank, wastewater evaporator or wastewater treatment system, this activity requires a permit to install (PTI) from Ohio EPA's Division of Surface Water.

#### Wastewater discharges to waters of the state

A facility that wants to discharge wastewater directly to any "waters of the state," needs a National Pollutant Discharge Elimination System (NPDES) permit from Ohio EPA's Division of Surface Water. Examples of waters of the state include streams, rivers and lakes. Discharges that enter a conveyance system (like a ditch or storm sewer) that leads to a waterway may also require an NPDES permit.

The NPDES permit helps to maintain the quality of surface waters by controlling the quantity and types of pollutants that can be discharged. The permit typically contains discharge ("effluent") limitations, as well as monitoring and reporting requirements. In addition, you may be required to treat wastewater to remove contaminants and meet effluent limitations before the wastewater is discharged. If you need to construct a wastewater treatment system, this requires a separate permit-to-install (PTI) from Ohio EPA's Division of Surface Water.

Because of the types of contaminants generated by dry cleaning operation, this is not generally the recommended permitting option for wastewater discharges.

### IMPORTANT

#### **Dry Cleaning Wastewater Discharges and On-Site Sewage Treatment Systems**

If you are planning to locate your business in an area that does not have access to sewers and you need to construct an on-site sewage treatment system (for example, a septic tank), **or if you have an on-site system now**, it is very important that you're aware of Ohio's on-site system regulations.

**Only sanitary waste and wastewater (from bathrooms and hand washing sinks) can go to an on-site sewage treatment or disposal system.**

Process wastewater containing chemicals, oils or other contaminants CANNOT go into an on-site system. Separator water and water from washing machines are examples of process wastewaters. You must find another way to manage your process wastewater, such as installing a separate holding tank. A holding tank requires a permit-to-install (PTI) from Ohio EPA's Division of Surface Water. If you have chemicals in your wastewater, your tank may also be regulated as a hazardous waste tank by Ohio EPA's Division of Hazardous Waste Management. You'll need to contact a hauler to empty your holding tank. The wastewater must be evaluated and delivered to a commercial wastewater treatment facility or, if hazardous waste, a hazardous waste disposal facility.

**Bottom Line:** Consider locating in an area with access to city water and sewer. This makes wastewater management much easier and probably not as costly.

If you discharge process wastewater to an on-site sewage treatment system, contact Ohio EPA for further information on how to address this discharge issue.

### Pollution Prevention (P2)

The best way to reduce pollution is to prevent it in the first place. Pollution prevention can range from low-cost improvements to changes in equipment and operating practices. Table 8 highlights some examples of the many P2 options for dry cleaners.

While the air regulations require you to conduct some P2, you may find that additional P2 activities also make sense for you. P2 strategies can improve your business performance, reduce operating costs and enhance your company's image. In addition, you can reduce your regulatory burden by reducing waste. For example, a dry cleaner classified as a hazardous waste SQG may be able to reduce wastes generated to get down to a CESQG category. Finally, P2 provides environmental, health and safety benefits and can reduce your potential for liability related to non-compliance or violations.

**Table 8**  
**Pollution Prevention Opportunities**  
**for Dry Cleaners**

#### **Improve Operating Practices**

- Size garment loads correctly. Do not overload or underload.
- Use recommended amounts of detergents and sizing to ensure good cleaning performance and minimize re-cleans.
- Minimize the time machine doors and button traps are open to reduce solvent losses.
- Clean lint screens regularly to avoid clogging of fans and condensers.
- Use spigots and pumps when dispensing new materials, and funnels when transferring wastes to storage containers to reduce possibilities of spills.
- Provide secondary containment in areas where solvents are stored.
- Keep storage and work areas clean and well organized, and keep all containers properly labeled.

#### **Substituting Materials**

- Use water-based or less hazardous pre-spotters instead of those containing solvents.
- Use petroleum solvents that have higher flash points and lower volatile organic compound (VOC) content.
- Use solvents and techniques that have been developed as alternatives to perc, including silicon-based products, glycol ether products and liquid carbon dioxide.

#### **Upgrading Equipment**

- When upgrading, buy energy efficient equipment and appliances.
- Switch to carbon adsorbers that use a polymer surface for adsorbing solvent vapor. These adsorbers can be regenerated.
- Consider wet cleaning. (See discussion on wet cleaning)
- Consider technologies such as ultrasonic or carbon dioxide cleaning.

### Wet Cleaning Project

The most advanced pollution prevention options involve alternatives to perc and other organic dry cleaning solvents. Wet cleaning is a good example of a perc alternative.

Wet cleaning begins with inspecting garments for fabric type, construction, dirt and stains. A garment may be spot cleaned, steamed and then washed in a washing machine that carefully regulates water temperature and agitation. Drying is done in drying cabinets, computer-controlled dryers or similar units. Garments are then pressed and finished with traditional techniques.

During the 1990s, the Center for Neighborhood Technology (CNT) worked with the dry cleaning industry on alternative cleaning processes, including a study of wet cleaning operations at three dry cleaners. Their research revealed:

- Most garments that now are dry cleaned can be safely wet cleaned.
- A strong customer demand exists for alternative garment cleaning methods.
- Changes in color are not a significant problem in wet cleaning.
- Only a small percentage of garments were difficult to clean well in a cost-effective manner.
- The wet cleaning process is not a significant concern to wastewater treatment officials.
- Wet cleaning is safer than traditional dry cleaning for employees, for customers and for communities.
- Wet cleaning is viable in both mixed use and 100% settings.
- 25-30% of garments in any shop do not have a "Dry Clean Only" label and should be wet cleaned if possible.

- The most effective way to increase the percentage of wet cleaning is to learn how to process wools and silks that have "Dry Clean Only" labels.
- The attitudes of the owner and staff are critical to successful wet cleaning.
- Training and education help shops do more wet cleaning.
- The financial profile of a wet cleaner is essentially the same as the profile of a drycleaner.

CNT's wet cleaning research can be found on their web site at [www.cnt.org/wetcleaning](http://www.cnt.org/wetcleaning).

### Need Additional Help?

If you have questions about Ohio EPA's regulations or need help, contact Ohio EPA's Office of Compliance Assistance and Pollution Prevention, or you can contact the local Ohio EPA district office covering the county your business is located in (see map on page 16).

#### **Office of Compliance Assistance and Pollution Prevention (OCAPP)**

(800) 329-7518 or (614) 644-3469

[www.epa.state.oh.us/ocapp](http://www.epa.state.oh.us/ocapp)

OCAPP is a one-stop location for answers and information about environmental regulations, compliance concerns and pollution prevention. All services of the office are free. OCAPP is an independent, non-regulatory office within Ohio EPA. This means that information obtained will not be shared with Ohio EPA inspection and enforcement staff.

If you need help financing equipment that reduces air pollution, such as buying more efficient dry cleaning machines, contact the Ohio Air Quality Development Authority's Clean Air Resource Center.

#### **Ohio Air Quality Development Authority's Clean Air Resource Center**

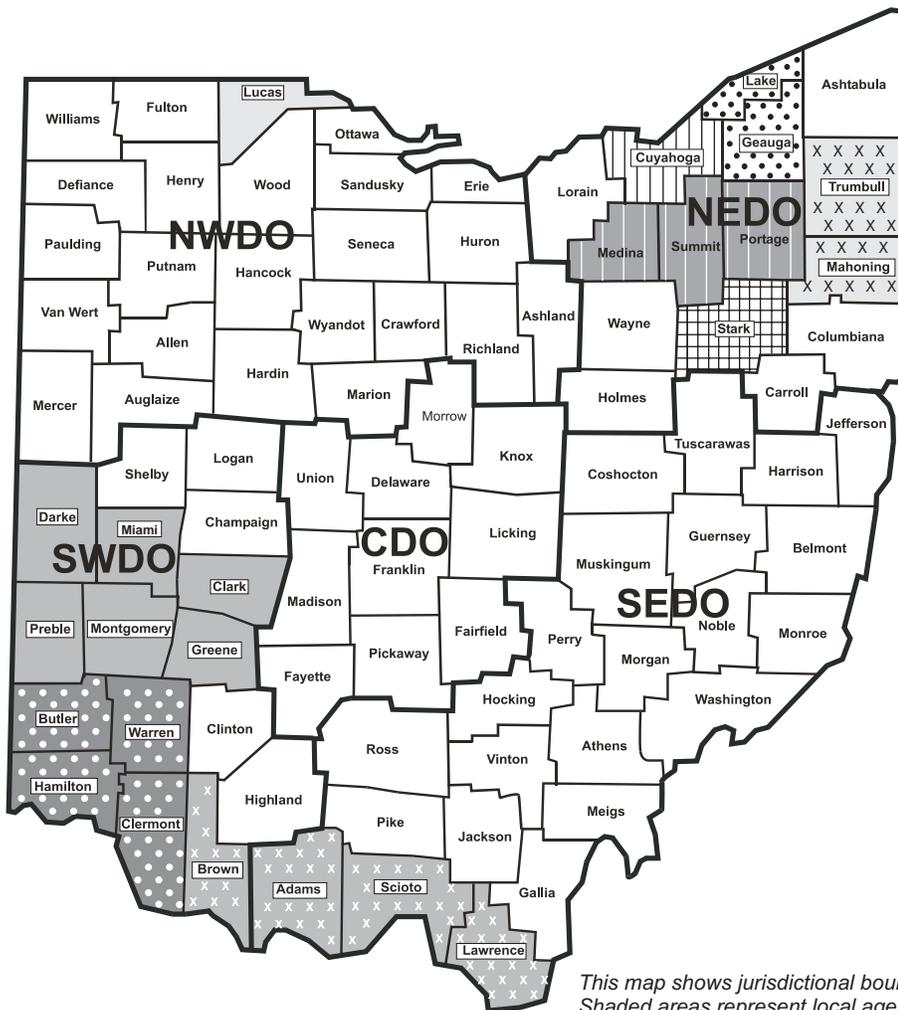
(800) 225-5051 or (614) 224-3383

[www.ohioairquality.org](http://www.ohioairquality.org)

The Clean Air Resource Center is an independent, non-regulatory state agency. CARC is not part of the Ohio EPA. CARC does not enforce air quality regulations. Instead, CARC helps businesses meet EPA air regulations while also reducing costs and gaining tax exemptions.

CARC provides loans to help businesses finance air pollution control or prevention projects, for example, new dry cleaning machines with cleaner emissions. In addition to loans, they also provide small business grants to cover the closing costs of financing pollution control projects.

## Ohio EPA District Offices and Local Air Pollution Control Agencies



*This map shows jurisdictional boundaries.  
Shaded areas represent local agencies within Ohio EPA districts.*



### District Offices

- CDO Central District Office**  
50 West Town Street, Suite 700  
Columbus, OH 43215  
(614) 728-3778 FAX (614) 728-3898
- SEDO Southeast District Office**  
2195 Front St.  
Logan, OH 43138  
(740) 385-8501 FAX (740) 385-6490
- NEDO Northeast District Office**  
2110 E. Aurora Rd.  
Twinsburg, OH 44087  
(330) 425-9171 FAX (330) 487-0769
- NWDO Northwest District Office**  
347 North Dunbridge Rd.  
Bowling Green, OH 43402  
(419) 352-8461 FAX (419) 352-8468
- SWDO Southwest District Office**  
401 E. Fifth St.  
Dayton, OH 45402-2911  
(937) 285-6357 FAX (937) 285-6249

### Local Air Pollution Control Agencies

- |   |   |  |
|---|---|--|
| <b>Akron Regional Air Quality Management District</b><br>146 South High St, Room 904<br>Akron, Ohio 44308<br>(330) 375-2480 FAX (330) 375-2402                  | <b>Cleveland Dept. of Public Health Division of Air Quality</b><br>1925 St. Clair Ave.<br>Cleveland, Ohio 44114-2080<br>(216) 664-2297 FAX (216) 420-8047         | <b>Portsmouth Local Air Agency</b><br>605 Washington St., Third Floor<br>Portsmouth, Ohio 45662<br>(740) 353-5156 FAX (740) 353-3638         |
| <b>Air Pollution Control Division Canton City Health Dept.</b><br>420 Market Ave. North<br>Canton, Ohio 44702-1544<br>(330) 489-3385 FAX (330) 489-3335         | <b>Regional Air Pollution Control Agency Montgomery County Health Dept.</b><br>117 South Main St.<br>Dayton, Ohio 45422-1280<br>(937) 225-4435 FAX (937) 225-3486 | <b>City of Toledo Division of Environmental Services</b><br>348 South Erie Street<br>Toledo, Ohio 43604<br>(419) 936-3015 FAX (419) 936-3959 |
| <b>Dept. of Environmental Services Air Quality Programs</b><br>250 William Howard Taft Road<br>Cincinnati, Ohio 45219-2660<br>(513) 946-7777 FAX (513) 946-7778 | <b>Lake County General Health District Air Pollution Control *</b><br>33 Mill Street<br>Painesville, Ohio 44077<br>(440) 350-2543 FAX (440) 350-2548              | <b>Mahoning-Trumbull APC Agency *</b><br>345 Oak Hill Ave., Suite 200<br>Youngstown, Ohio 44502<br>(330) 743-3333 FAX (330) 744-1928         |

*\*Facilities located within these jurisdictions should file air permit applications with Ohio EPA's Northeast District Office (NEDO).*

## Environmental Compliance Screening Checklist for Ohio Dry Cleaners

The *Environmental Compliance Guide for Ohio Dry Cleaners* and this checklist highlight the major environmental requirements that might apply to your business. They don't, however, cover every requirement, and should not be used as your only source of information on environmental regulations. The guide and checklist are good starting points to identify regulations that may apply to you and areas where you can improve compliance.

This checklist is for your use and you are not required to send it to the Ohio EPA when you have completed it. However, if you check any circles (○) on this checklist, you probably have environmental compliance problems at your business. If you need help with the regulations or have additional questions, contact your local Ohio EPA district office (see map on page 14) or the Office of Compliance Assistance and Pollution Prevention at (800) 329-7518.

	Yes	No
<b>Air Pollution Control - Machine and Shop Operation</b> (pages 7-10)		
1. Do you keep the dry cleaning machine door closed except when loading and unloading?	<input type="checkbox"/>	<input type="radio"/>
2. Do you operate each machine and each control device according to the design specification?	<input type="checkbox"/>	<input type="radio"/>
3. Do you keep the manufacturer's design specifications and operating manuals for each machine and each control device at your shop?	<input type="checkbox"/>	<input type="radio"/>
4. Do you keep perc and waste solvent in closed, non-leaking containers?	<input type="checkbox"/>	<input type="radio"/>
5. Do you drain used cartridge filters for at least 24 hours?	<input type="checkbox"/>	<input type="radio"/>
6. Do you check your machine(s) for perceptible perc leaks on a weekly basis (new small source or large source classifications) or bi-weekly basis (existing new small source classification)?	<input type="checkbox"/>	<input type="radio"/>
7. Do you fix any leaks with the allotted time?	<input type="checkbox"/>	<input type="radio"/>
8. Do you keep a log of all leak checks and repairs that includes: (1) the date of leak check; (2) name/location of component found leaking; (3) date of repair and/or order for repair parts?	<input type="checkbox"/>	<input type="radio"/>
9. If your machine(s) was installed after December 9, 1991:		
a. Is your machine(s) a dry-to-dry machine?	<input type="checkbox"/>	<input type="radio"/>
b. Does your machine(s) have a refrigerated condenser control device that will not release perc vapor in the atmosphere will the drum is rotating?	<input type="checkbox"/>	<input type="radio"/>
c. Is each machine equipped with a diverter valve to prevent air drawn into the dry cleaning machine (when the machine door is open) from passing through the refrigerated condenser?	<input type="checkbox"/>	<input type="radio"/>
d. Each week, do you monitor and record the outlet temperature or the high and low pressures of the refrigerated condenser before the end of the drying cycle?	<input type="checkbox"/>	<input type="radio"/>
e. Do you maintain the outlet temperature of your refrigerated condenser below 45°F?	<input type="checkbox"/>	<input type="radio"/>
10. Has your shop ever used more than 1,800 gallons of perc per year?	<input type="checkbox"/>	<input type="radio"/>
<b>Air Permits</b> (page 7)		
11. Do you have a Permit-to-Install (PTI) for your machine(s)?	<input type="checkbox"/>	<input type="radio"/>
12. Did you buy your business from someone that had air permits for their machines?	<input type="radio"/>	<input type="checkbox"/>
13. Have you replaced any of your dry cleaning machines?	<input type="checkbox"/>	<input type="radio"/>
14. Do you have, or have you applied for, a Permit-to-Operate (PTO) for your machine(s)?	<input type="checkbox"/>	<input type="radio"/>
15. If you have a PTO, has it expired?	<input type="checkbox"/>	<input type="radio"/>
16. Have you read your Permit-to-Install and/or Permit-to-Operate?	<input type="checkbox"/>	<input type="radio"/>

# Environmental Compliance Screening Checklist for Ohio Dry Cleaners

Yes No

## Air Permit - Notification Reports (page 8)

17. Have you submitted the Initial Notification Report?  Yes  No
18. Have you submitted the Compliance Report for Control Requirements?  Yes  No
19. Have you submitted the Compliance Report for Pollution Prevention?  Yes  No

## Air Permit - Record Keeping (pages 8-10)

20. Do you keep all records required by your permit including:
- a. Perc purchase receipts?  Yes  No
  - b. Rolling, 12-month total of perc purchases?  Yes  No
  - c. Machine leak checks and repairs?  Yes  No
  - d. Refrigerated condenser temperature (or pressure) checks?  Yes  No
  - e. The amount, in pounds, of fabric cleaned with perc from January 1 to December 31 of each year?  Yes  No
21. Do you retain the above records for 5 years?  Yes  No

## New (2006) Air Pollution Requirements (page 8-10)

22. Do you operate a transfer machine?  Yes  No
23. Do you use a halogenated hydrocarbon detector or perc gas analyzer to check your machines for perc leaks once a month?  Yes  No
24. If you installed a machine after December 21, 2005, is it a non-vented, dry-to-dry machine with a refrigerated condenser and a secondary carbon adsorber?  Yes  No
25. Is/are your dry cleaning machine(s) located in a building with a residence?  Yes  No
26. Have you submitted the Notification of Compliance Status Report by July 28, 2008?  Yes  No

## Separator Water (page 4)

27. Does the separator water leaving the machine enter into a closed container?  Yes  No
28. Do you accumulate separator water in a closed container or drum and send it off site as hazardous waste?  Yes  No
29. Do you pour separator water down the drain?  Yes  No
30. If you use an evaporator to manage your separator water:
- a. Do you use an activated carbon system or other adsorption device to reduce the perc concentration below 0.7 ppm before evaporization or atomization?  Yes  No
  - b. Can you document your activated carbon system produces water containing less than 0.7 ppm perc?  Yes  No
  - c. Is the evaporator system closed and vented outside?  Yes  No
  - d. Do you transfer the separator water to the evaporator in a container labeled "hazardous waste" or "separator water"?  Yes  No
  - e. Do you manage the used activated carbon as hazardous waste?  Yes  No
  - f. Do you conduct regular maintenance on your evaporator and keep maintenance records?  Yes  No
  - g. Do you have a permit to install (PTI) from Ohio EPA's Division of Surface Water for the evaporator?  Yes  No

## Environmental Compliance Screening Checklist for Ohio Dry Cleaners

	Yes	No
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### Hazardous Waste (pages 2-6)

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 31. Have you evaluated all of your waste streams to determine whether they meet Ohio EPA's definition of hazardous waste? Including: | <input type="checkbox"/> | <input type="radio"/>    |
| a. Perc or solvent   | <input type="checkbox"/> | <input type="radio"/>    |
| b. Used activated carbon and carbon cartridges   | <input type="checkbox"/> | <input type="radio"/>    |
| c. Still residues (sludge)   | <input type="checkbox"/> | <input type="radio"/>    |
| d. Filter powder (muck)  | <input type="checkbox"/> | <input type="radio"/>    |
| e. Used filters and filter media   | <input type="checkbox"/> | <input type="radio"/>    |
| f. Discarded chemicals   | <input type="checkbox"/> | <input type="radio"/>    |
| g. Button/lint trap waste  | <input type="checkbox"/> | <input type="radio"/>    |
| 32. Do you place used fluorescent lamps (tubes or bulbs) in the trash?   | <input type="radio"/>    | <input type="checkbox"/> |
| 33. Do you have your waste evaluation information in your files?   | <input type="checkbox"/> | <input type="radio"/>    |
| 34. Are all hazardous wastes sent to an Ohio EPA-permitted disposal company or recycling company?                                    | <input type="checkbox"/> | <input type="radio"/>    |
| 35. Do you know how much hazardous waste you generate in a month?  | <input type="checkbox"/> | <input type="radio"/>    |
| 36. Do you know if you need a hazardous waste identification number?   | <input type="checkbox"/> | <input type="radio"/>    |
| 37. Do you know if you are complying with all of the Ohio EPA hazardous waste generator requirements?                                | <input type="checkbox"/> | <input type="radio"/>    |

### Wastewater Discharges (see pages 11-12)

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 38. If you have floor drains or generate wastewater from your dry cleaning shop (for example, clean up and wet cleaning machines): |                          |                          |
| a. Do you know where your wastewater and floor drain discharges go?  | <input type="checkbox"/> | <input type="radio"/>    |
| b. If your wastewater goes to a creek, river or other water of the state, do you have a discharge (NPDES) permit from Ohio EPA?    | <input type="checkbox"/> | <input type="radio"/>    |
| c. If your wastewater goes to a public wastewater treatment plant, do you have permission or a permit for the discharge?           | <input type="checkbox"/> | <input type="radio"/>    |
| d. Does your wastewater go to a dry well, cesspool, septic tank, or leach field?   | <input type="radio"/>    | <input type="checkbox"/> |
| e. Does your wastewater go to a storm drain?   | <input type="radio"/>    | <input type="checkbox"/> |
| f. Does your wastewater go outside onto the ground?  | <input type="radio"/>    | <input type="checkbox"/> |
| g. Do you put other materials like solvents or chemicals into your drains?   | <input type="radio"/>    | <input type="checkbox"/> |

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