



**Environmental
Protection
Agency**

Division of Environmental and Financial Assistance
Office of Compliance Assistance and Pollution Prevention
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Environmental Compliance Guide for Ohio Dry Cleaners

*A guide to help Ohio dry-cleaning facilities understand
and comply with environmental regulations*



Table of Contents

Introduction	2
Hazardous Waste	3
What hazardous wastes could be generated at my shop?	3
Dry-cleaning-related hazardous waste	3
Other wastes	4
How do I manage my waste under the hazardous waste rules?	4
Do I need a hazardous waste identification number?	6
How do I prepare my waste to ship off-site?.....	6
How do I manage universal wastes and other specific hazardous wastes?	6
Waste lamps	6
Solvent-contaminated wipes.....	6
How do I manage my separator water?	7
How can I reduce my waste and improve compliance?	8
Self-Assessment Check: Hazardous Waste Requirements	8
Air Regulations	10
Permitting	10
Machines using PERC	10
Machines using alternate solvents	10
NESHAP requirements for PERC dry cleaners.....	11
Notification Requirements for PERC dry cleaners	14
Initial Notification Report	14
Compliance Report for Pollution Prevention.....	14
Compliance Report for Control Requirements	14
Notification of Compliance Status Report	14
Are there alternatives to PERC?.....	14
How can I reduce my air emissions and improve compliance?	15
Self-Assessment Check – Air Pollution Requirements	16
Wastewater Requirements	17
Discharges to a public wastewater treatment plant	17
Wastewater discharges to waters of the state	17
Discharges to an on-site sewage treatment system.....	18
Discharges to a floor drain.....	18
How can I reduce my wastewater and improve compliance?.....	19
Self-Assessment Check: Wastewater Requirements	19
Where can I find additional help?	20
OCAPP	20
OAQDA.....	20
Table 1 - Generator Requirements Summary	5
Table 2 - NESHAP Source Categories.....	11
Table 3 - NESHAP Requirements for all Dry Cleaners	11
Table 4 - Requirements for Small Area Source Dry Cleaners.....	12
Table 5 - Requirements for Large Area Source Dry Cleaners	13
Figure 1 - Common Hazardous Wastes from Dry Cleaning	3
Figure 2 - Hazardous Waste Generator Categories	4
Figure 3 - Wet Cleaning Evaluation.....	15

Introduction

Dry cleaners provide a valuable cleaning service. Like many businesses, dry-cleaning facilities are subject to state and possibly federal regulations depending on the cleaning solvent used. Dry-cleaning facility owners and operators need to be aware of these regulations, to help ensure that you are operating in compliance and with the proper permits.

Ohio EPA recognizes that it can be challenging to understand and keep up with all the regulations that apply to your business. Ohio EPA's Division of Environmental and Financial Assistance (DEFA) developed this compliance guide to provide dry cleaners with a starting point to identify the regulations that apply to you, and to help you determine if your facility is in compliance. Dry-cleaning facilities are encouraged to be proactive and perform compliance assessments regularly because this can help you:

- improve environmental quality
- increase worker safety
- identify ways to reduce pollution, recycle and possibly save money
- reduce the possibility of violations and penalties if you are inspected

This guide highlights major areas of compliance. It does not address every environmental regulation and should not be used as your only tool for understanding the regulations. You'll need to review Ohio's environmental regulations and other materials to gain a complete understanding of the requirements.

Your answers to the questions in this guide will help you recognize areas where you are on track or where compliance must be improved. If you answer a question with a "yes" or "no" that has been highlighted in gray, or if you are unsure of how to answer a specific question, this likely means that your business must take additional steps to achieve compliance. Each page of the checklist includes an area where you can write notes or comments. Use the answers from the checklist to create a working list of environmental compliance issues that require further action. Take measures to remedy any problem areas and document your corrections. The guide is designed for your use only and you do not need to return the results of your evaluation to Ohio EPA.

If you have any questions about regulations or how to use this guide, contact DEFA's Office of Compliance Assistance and Pollution Prevention (OCAPP) for help at 800-329-7518. OCAPP offers free and confidential assistance to small businesses that need help in complying with the regulations. Environmental specialists are available to answer your questions and help identify areas where your business is subject to regulation. The office can also help you obtain any necessary permit applications or other forms.

Hazardous Waste

What hazardous wastes could be generated at my shop?

Dry-cleaning-related hazardous waste

Most businesses, including dry cleaners, generate hazardous waste. If your facility uses perchloroethylene (PERC), you are a hazardous waste generator. Even if you do not use PERC in your machines, your shop likely generates other wastes that are hazardous. Ohio EPA has specific requirements for managing and disposing of hazardous waste. As a dry-cleaning facility owner or operator, it is important to evaluate the wastes generated at your shop to determine if they are hazardous wastes.

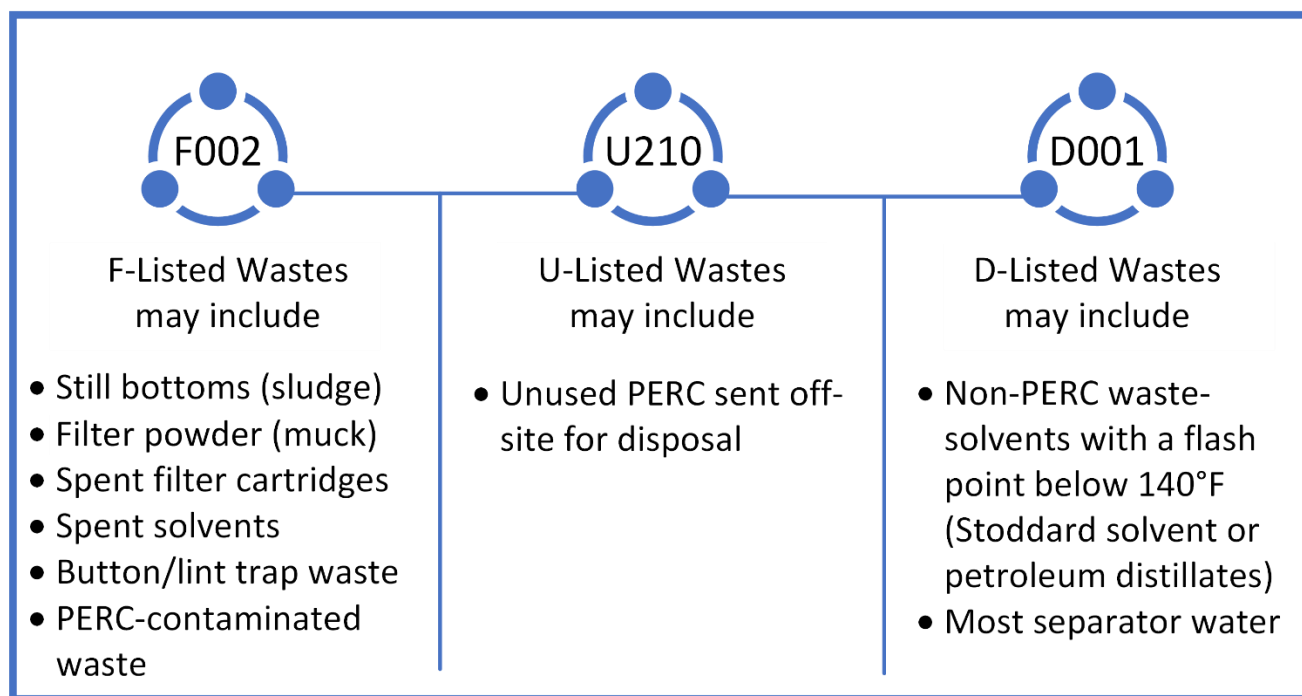


Figure 1 - Common Hazardous Wastes from Dry Cleaning

A waste can be hazardous because it is specifically listed as a hazardous waste in [Ohio's hazardous waste regulations](#). 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. 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 exhibits a hazardous characteristic. Wastes that have the hazardous characteristics of ignitability, corrosivity, reactivity or toxicity are known as characteristic hazardous wastes. Characteristic hazardous wastes carry an EPA "D" waste code. Common hazardous wastes generated from the dry-cleaning process and their EPA waste codes are summarized in Figure 1.

When evaluating your wastes, you can use resources such as vendor information, safety data sheets or other product information. Ohio EPA also has [guidance documents and other resources](#) to help you evaluate your hazardous wastes. In many cases, these resources and your knowledge of the waste will be enough 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. It is important to maintain any information used to make your waste evaluation.

Other wastes

In addition to dry-cleaning wastes, your shop may have other regulated wastes such as waste lamps and solvent-contaminated wipes. Although these wastes are also hazardous, there is an option to manage them outside of the full hazardous waste regulations. Many facilities choose to manage waste lamps and solvent-contaminated wipes in this less restrictive manner. More information about properly managing these wastes is provided in this guide.

How do I manage my waste under the hazardous waste rules?

Your hazardous waste requirements depend on how much hazardous waste you generate in any given month. This is known as your hazardous waste generator category. Remember that your generator category is based on how much hazardous waste you generate – not how much hazardous waste you ship.

Start counting your waste when it is first generated and do not count wastes that are exempt or are managed in an alternate manner outside of the hazardous waste rules, such as universal waste. It is also important to keep your waste evaluation information on file at your shop. A summary of the hazardous waste generator categories and the basic requirements are summarized in Figure 2.

Very Small Quantity Generator (VSQG)		Small Quantity Generator (SQG)		Large Quantity Generator (LQG)
Generate less than 200 lbs./month ~27-gallons or ~½ of a 55-gallon drum		Generate 200 to 2,200 lbs./month ~270-gallons or ~5, 55-gallon drums		Generate more than 2,220 lbs./month ~30, 55-gallon drums
Store less than 2,000 lbs. ~5, 55-gallon drums		Store less than 13,000 lbs. ~30, 55-gallon drums		No storage quantity limit
No duration limit		Storage duration – 180-days		Storage duration – 90-days

Figure 2 - Hazardous Waste Generator Categories

The Ohio EPA [hazardous waste guidance webpage](#), the [Hazardous Waste Generator Handbook](#) and the following table is a good resource for understanding your specific hazardous waste management requirements. Some of the basic requirements for each generator category are summarized in Table 1.

Table 1 - Generator Requirements Summary

Hazardous Waste Generator Requirement	VSQG 3745-52-14	SQG 3745-52-16	LQG 3745-52-17
Do I need to evaluate my waste? 3745-52-11	Yes. You can use process knowledge or lab analysis to identify your hazardous waste. Determination must be made at the point of generation, and you must <i>keep all documentation from your evaluation on file at your facility</i>		
How much can I generate?	Less than 220 lbs. ≈ Less than 27 gal. or ≈ Less than ½ drum*	Between 220 to 2,200 lbs. ≈ Between 27 gal. to 270 gal ≈ Between ½ drum* to 5 drums*	More than 2,200 lbs. ≈ More than 270 gal. or ≈ More than 5 drums*
How much can I accumulate on-site?	No more than 2,200 lbs. ≈ 270 gal. or 5 drums*	No more than 13,200 lbs. ≈ No more than 1,620 gal. or ≈ No more than 30 drums*	No limit
How long can I accumulate waste on-site?	No limit – unless you exceed 2,200 pounds. If this happens, you become a SQG and have 180-days to ship hazardous waste off-site.	180-days or 270 if the TSDF is > 200 miles away (30-day extension also available)	90-days (30-day extension also available)
Do I need an EPA hazardous waste ID number?	No – but waste hauler may recommend you obtain	Yes – use 9029 Site ID Form Re-notify every 4-years 3745-52-18	Yes – use 9029 Site ID Form Re-notify on even-numbered years 3745-52-18
Can I treat my hazardous waste on-site?	<i>Certain types of treatment require a permit from the Ohio EPA. Consult with Ohio EPA if you want to treat your hazardous waste</i>		
	Yes – but must follow LQG requirements	Can treat on-site for up to 180-days	Can treat on-site for up to 90-days
Do I have specific requirements for managing hazardous waste containers?	No – but many VSQGs follow SQG requirements as best management practices	Yes – store your hazardous waste in appropriate, properly labeled containers. See the <i>Are You Properly Managing Your Hazardous Waste Containers</i> factsheet. Inspect containers weekly for leaks or deterioration (document inspection findings and maintain files on-site). Inspections not required for waste accumulated in a satellite accumulation area. US EPA air emission standards (AA, BB, CC) apply to some LQGs. Additionally, see the rule for Satellite Accumulation Areas (3745-52-15).	
Do I have to complete a manifest to ship my waste? 3745-52-20	No – but waste hauler may recommend	Yes	Yes
Do I have employee training requirements? 3745-65-16	No	Yes – ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures	Yes – conduct classroom instruction or on-the-job training for employees; conduct annual refreshers and keep records
Do I have to have an emergency preparedness plan?	No	Yes – keep emergency equipment on-site; test and maintain your equipment, minimize possibility of emergencies; maintain adequate aisle space; make arrangements with local emergency authorities	
*55-gallon drum			

Do I need a hazardous waste identification number?

If your shop is an SQG or an LQG you are required to **notify Ohio EPA** that you are a hazardous waste generator and obtain a hazardous waste identification number. If your shop is a VSQG you are not required to obtain a hazardous waste identification number, however your waste disposal facility may request that you obtain a number to help with tracking paperwork.

How do I prepare my waste to ship off-site?

As a hazardous waste generator, you are responsible for your shop's hazardous waste from "cradle to grave." That means that, although you pay a waste disposal or recycling firm to manage your hazardous waste, you are still responsible for your hazardous waste even after it leaves your shop. Many facilities work with a commercial hazardous waste service. To assist you, Ohio EPA maintains a ***list of commercial facilities accepting hazardous waste***.

If your shop is an SQG or LQG, you have specific steps to take to prepare your hazardous waste for shipment off-site. SQGs and LQGs are required to prepare a hazardous waste manifest before shipping your waste off-site. Manifests are multiple-copied tracking documents that accompany hazardous waste shipments. The manifest acts as a chain of custody for the waste from the point it leaves your business until it reaches its destination. VSQGs are not required to prepare a manifest.

How do I manage universal wastes and other specific hazardous wastes?

Ohio's rules allow certain hazardous wastes to be managed in an alternate manner in place of the more complex hazardous waste regulations. Certain types of hazardous wastes that are typically generated by many businesses have been identified as **Universal Waste** and can be managed in a less restrictive way. Spent (waste) fluorescent lamps are a common universal waste generated at dry-cleaning shops. In addition to the universal waste rules, waste wipes that contain solvent are typically hazardous waste but can also be managed in an alternate manner. Guidance on managing waste lamps and solvent-contaminated rags is provided below.

Waste lamps

Many fluorescent and other types of lamps (i.e., light bulbs) are hazardous waste when they are spent. However, many shops choose to manage their hazardous lamps under the universal waste rules instead of the hazardous waste rules because there are fewer regulatory requirements. Additionally, universal wastes do not count toward your hazardous waste generator totals. More information on managing waste lamps in this manner can be found on the ***Managing Fluorescent Lamps factsheet***.

Solvent-contaminated wipes

Wipes are defined as woven or non-woven shop towels, rags, pads, or swabs made of wood pulp, fabric, polyester blends, or other material. If you use rags, shop towels, or other types of wipes to clean up a spill of PERC or other solvents, you generate regulated solvent-contaminated wipes. Your dry-cleaning facility may also receive solvent-contaminated rags or other textiles generated by your customers, particularly industrial and commercial customers.



Waste lamps managed as universal waste do not count toward your hazardous waste generator totals.



If you generate solvent-contaminated wipes from spill cleanup at your shop, consider managing them under the ***solvent-contaminated wipes rule***



If you launder solvent-contaminated rags generated by your customers, you need to remove any free liquid identified in the wipes container prior to laundering and manage it as hazardous waste. Your shop discharge, if any, needs to be regulated under the Clean Water Act.

Although most solvent-contaminated wipes are hazardous waste, there is an option to manage them in a less-restrictive manner. Specifically, if solvent-contaminated wipes are managed under Ohio's ***solvent-contaminated wipes rule*** then they are not counted as hazardous waste and can be managed with fewer restrictions. This rule also excludes solvent-contaminated wipes that are sent for professional cleaning and reuse if both the generator and the laundry follow certain conditions. Therefore, whether you generate solvent-contaminated wipes at your shop or accept solvent-contaminated wipes and other textiles from your customers for laundering, there are requirements you need to follow.

How do I manage my 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.

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.

Separator water with a PERC concentration of **0.7 parts per million (ppm)** is hazardous waste. Separator water typically contains around **150 ppm** of PERC.

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 the conditions identified below:

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 publicly owned treatment works, 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.

Additionally, PERC can migrate through concrete pipes or leak through broken pipes, contaminating the underlying soil and ground water, 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.

How can I reduce my waste and improve compliance?

There are some simple strategies that you can implement to reduce the amount of dry-cleaning wastes your shop generates. Sometimes even minor changes can significantly reduce waste generation, improve compliance, and save money:

- Practice good inventory control. Only use what's needed to complete the job
- Size loads correctly to maximize cleaner effectiveness and minimize re-cleans
- Consider water-based or less hazardous pre-spotters instead of those containing solvents
- Keep waste streams separate to increase their potential for reuse, recycling, or treatment

Self-Assessment Check: Hazardous Waste Requirements

Any shaded areas indicate the need for further assessment or identifies a potential compliance area that should be addressed. Need help determining your compliance with regulations or determining your next steps? Contact OCAPP at 800-329-7518 for free and confidential assistance.

Self-Assessment Check – Hazardous Waste Requirements

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1) Have you evaluated all the wastes your business generates to find out if they are hazardous waste? | ☐ Yes | ☐ No | ☐ N/A |
| 2) Do you have your waste evaluation information in your files? | ☐ Yes | ☐ No | ☐ N/A |
| 3) Have you determined how much hazardous waste you generate in a calendar month to determine your generator status? | ☐ Yes | ☐ No | ☐ N/A |

If so, what is your business's generator status?

- ☐ Very Small Quantity Generator (VSQG) $\leq$ 220 lbs. of haz. waste (about ½ of a 55-gallon drum) in a calendar month
- ☐ Small Quantity Generator (SQG) $>$ 220 to $<$ 2,200 lbs. of haz. waste (about ½ up to 5, 55-gallon drums) in a calendar month
- ☐ Large Quantity Generator (LQG) $>$ 2,200 lbs. of haz. waste (over 5, 55-gallon drums) in a calendar month

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 4) Are you aware of and in compliance with the specific requirements for your generator status? | ☐ Yes | ☐ No | ☐ N/A |
| 5) Do you know if you need a hazardous waste identification number? | ☐ Yes | ☐ No | ☐ N/A |

Note: SQGs and LQGs are required to obtain a hazardous waste identification number

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 6) Do you accumulate separator water in a closed drum and send it off-site as hazardous waste | ☐ Yes | ☐ No | ☐ N/A |
| 7) Do you manage your separator water by: | ☐ Yes | ☐ No | ☐ N/A |
| a) Accumulating and sending off-site as hazardous waste | ☐ Yes | ☐ No | ☐ N/A |
| i. If so, are you following applicable container management standards and accumulation limits | ☐ Yes | ☐ No | ☐ N/A |
| b) Pouring it down the drain | ☐ Yes | ☐ No | ☐ N/A |
| i. If so, do you discharge directly to the POTW with their permission? | ☐ Yes | ☐ No | ☐ N/A |
| c) Using an evaporator | ☐ Yes | ☐ No | ☐ N/A |
| ii. If so, do you follow the requirements for using an evaporator? | ☐ Yes | ☐ No | ☐ N/A |
| iii. Do you have a permit-to-install (PTI) for your evaporator? | ☐ Yes | ☐ No | ☐ N/A |
| 8) Are you aware of alternate ways to manage spent fluorescent bulbs and solvent-contaminated wipes? | ☐ Yes | ☐ No | ☐ N/A |
| 9) Does you send all hazardous waste to a permitted hazardous waste facility or a recycling facility ? | ☐ Yes | ☐ No | ☐ N/A |

Air Regulations

Permitting

Machines using PERC

In Ohio, all dry cleaners using PERC are required to obtain air pollution permits for their dry-cleaning machines. There are several permitting options, including a traditional **Permit-to-Install and Operate (PTIO)** and a **Model General Permit**, for facilities that qualify. Air permit applications are processed through your Ohio EPA District Office or your **local air agency**. The air pollution permit requires you to track PERC purchases and to maintain your machines to prevent PERC leaks.

 cleaning facilities that are co-located with residential buildings are required to phase-out PERC by Dec. 21, 2020.

January 2020						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 ☐ Calculate following 12 Month PERC Purchase	2	3	4
			Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes
5	6	7	8	9	10	11
Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes
12	13	14	15	16	17	18
Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes
19	20	21	22	23	24	25
Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes
26	27	28	29	30	31	
Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Pounds of clothes	Total lbs/month

The Ohio EPA Dry Cleaner Environmental Compliance Calendar is a popular resource to help you comply with your air permit requirements. Obtain a copy [here](#) or by calling OCAPP at 800-329-7518.

To help PERC dry cleaners stay compliant, OCAPP publishes an annual **Dry Cleaners Compliance Calendar** to help facilities with recordkeeping and reporting requirements. If you want to receive a calendar, please contact OCAPP at (800) 329-7518.

Based on 2008 changes to the federal rule for dry cleaners operating PERC machines, co-located facilities either need to phase out their PERC machines, switch to an alternative solvent or move the PERC machine to a non-residential building. The deadline for this requirement is December 21, 2020. This requirement can be avoided if PERC is not used.

If your facility needs assistance with this issue, the Ohio Air Quality Development Authority (OAQDA) is an independent, non-regulatory state agency that provides

cost-effective financing and grants to small business to help purchase more environmentally friendly equipment and to help those facing financial hardship to achieve federal compliance. If interested, call OAQDA at 614-466-6825 or [visit their website](#).

Machines using alternate solvents

Your facility may not need air permits if your machines do not use PERC. Specifically, there is a **permanent air exemption** for dry-cleaning facilities that do not use PERC and meet specific criteria for the total rated machine capacity and annual solvent use. If you think you may qualify for this air permit exemption, you should read the language of the exemption (at **OAC rule 3745-31-03(B)(1)(q)**) to be sure you qualify.

If you operate petroleum solvent machines and if your total manufacturer's rated dryer capacity of the petroleum solvent machine(s) is 84-pounds or greater, then your shop may be subject to a federal rule that sets standards of performance for petroleum dry cleaners. If you think your shop may be subject to this rule, you should read the applicable New Source Performance Standards rule (**40 CFR 60, Subpart JJJ**) to determine if it applies. If your facility is subject to this federal rule, Ohio EPA air permits will be needed for your petroleum solvent dry-cleaning machines.

Additionally, some petroleum solvent dry cleaners are subject to Ohio's air regulations (**OAC 3745-21-09(BB)**) which include operating requirements and emission limits. This rule does not apply if the total manufacturer's rated capacity of all petroleum solvent dryers at your facility is less than or equal to 83 pounds of articles (dry basis) or if you use less than 4,700-gallons of petroleum solvent annually. If your shop meets the exemption, you are still required to keep records of your annual petroleum solvent use. You are required to maintain these records at your shop for at least five years.

NESHAP requirements for PERC dry cleaners

The National Emission Standard for Hazardous Air Pollutant (NESHAP) for PERC Dry-cleaning Facilities is a federal regulation established to control air emissions of PERC from dry cleaners. All dry-cleaning facilities that use PERC are subject to some or all the NESHAP requirements. The first step to comply with the NESHAP is to determine your source category, which is based on the type of equipment installed and your annual PERC consumption. Then determine if your machines are new or existing based on the installation date. A shop can have both new and existing machines.

Table 2 - NESHAP Source Categories

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
Small Area Sources	less than 140 gallons	less than 200 gallons	less than 140 gallons
Large Area Sources	140 - 2,100 gallons	200 - 1,800 gallons	140 - 1,800 gallons
Major Sources	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		
Existing source	Before Dec. 9, 1991		
New source	After Dec. 9, 1991		

Requirements for all dry cleaners that use PERC are summarized in Table 3.

The requirements for small and large area source categories are summarized in Tables 4 and 5. If you fit into the major source category, contact your district Ohio EPA office or local air agency for more information.

Table 3 - NESHAP Requirements for all Dry Cleaners

 Inspect Equipment	 Implement Good Practices	 Record Information
Inspect equipment for leaks	- Keep PERC and waste containers in closed, non-leaking containers - Drain cartridge filters for at least 24 hours - Keep machine doors closed except for loading and unloading - Operate and maintain machine according to manufacturer's recommendations	- Monthly PERC purchases- track and keep receipts (know how much per you purchased during the previous 12 months) - Records and receipts of all equipment repairs - All inspection results - Pounds of clothes cleaned with PERC

Table 4 - Requirements for Small Area Source Dry Cleaners

Requirement	Existing – installed before 12/9/91	New – installed on or after 12/9/91
Control Equipment	Dry-to-dry: No control required	Dry-to-dry: Machines equipped with a refrigerated condenser. Machines installed after December 21, 2005, must be non-venting and equipped with a refrigerated condenser and a carbon absorber
		Transfer: New transfer machines are prohibited
Operating Requirements	By July 28, 2008, remove any transfer machines from service	Use only closed loop, dry-to-dry machines
	Facilities co-located in residential buildings must discontinue PERC use by Dec. 21,2020	New dry-cleaning machines cannot be installed or relocated to dry cleaners in residential buildings
Monitoring & Inspections	Bi-weekly equipment <i>perceptible</i> ¹ PERC leak inspections.	Weekly equipment <i>perceptible</i> ¹ PERC leak inspections.
	Monthly equipment PERC leak detection using a halogenated hydrocarbon detector or PERC gas analyzer. 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.	
	Repair any perceptible leaks with 24 hours, or if needed, order parts with two days and install them within five days of receipt.	
		Weekly refrigerated condenser monitoring of the cool-down or drying cycle while the gas-vapor stream is flowing through the condenser.
Recordkeeping	Keep records of all leak inspections and repairs.	
		Refrigerated condenser system high and low pressure readings 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 ² .
Notification	Submit a Notification of Compliance Status report on or before July 28, 2008	

¹ PERC vapor or liquid leaks that are obvious from: odor; visual observation, such as pools or droplets of liquid; or the detection of gas flow by passing the fingers over the surface of the equipment

² The temperature must be 45°F or less before the end of the cycle. 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.

Table 5 - Requirements for Large Area Source Dry Cleaners

Requirement	Existing – installed before 12/9/91	New – installed on or after 12/9/91
Control Equipment	Dry-to-dry: Must have either a refrigerated condenser or carbon adsorber if machine was installed before 9/22/93	Dry-to-dry: Machines must be a closed loop system equipped with a refrigerated condenser and a secondary carbon adsorber. Transfer: New transfer machines are prohibited
Operating Requirements	By July 28, 2008, remove any transfer machines from service Facilities co-located in residential buildings must discontinue PERC use by Dec. 21, 2020	Use only closed loop, dry-to-dry machines New dry cleaning machines cannot be installed or relocated to dry cleaners in residential buildings
Monitoring & Inspections	Weekly equipment <i>perceptible</i> ¹ PERC leak inspections. 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 4). -Transfer systems must use separate refrigerated condensers for controlling the PERC air streams from the dryer/reclaimer and the washer. If using a carbon adsorber: -Do not bypass at any time; - Weekly 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. Monthly equipment PERC leak detection using a halogenated hydrocarbon detector or PERC gas analyzer. 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.	Bi-weekly equipment <i>perceptible</i> ¹ PERC leak inspections. Weekly refrigerated condenser monitoring of the cool-down or drying cycle while the gas-vapor stream is flowing through the condenser. Monthly equipment PERC leak detection using a halogenated hydrocarbon detector or PERC gas analyzer. 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. Repair any perceptible leaks with 24 hours, or if needed, order parts with two days and install them within five days of receipt.
Recordkeeping	Keep records of leak inspections and repairs.	Keep records of all leak inspections and repairs.
		Refrigerated condenser system high and low pressure readings 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 ² .
Notification	Submit a Notification of Compliance Status report on or before July 28, 2008	

¹ PERC vapor or liquid leaks that are obvious from: odor; visual observation, such as pools or droplets of liquid; or the detection of gas flow by passing the fingers over the surface of the equipment

² The temperature must be 45°F or less before the end of the cycle. 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.

Notification Requirements for PERC dry cleaners

Each dry cleaner that uses PERC must submit the reports listed below to Ohio EPA. Forms for these reports are available on the [OCAPP dry-cleaning guidance webpage](#).

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 housekeeping 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 Oct. 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 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 was due by July 28, 2008.

Are there alternatives to PERC?

The most advanced pollution prevention options involve alternatives to PERC and other organic dry-cleaning solvents. Alternative solvents and wet cleaning are good examples of PERC alternatives.

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.

Studies on the wet cleaning process done by the [Center for Neighborhood Technology](#) (CNT) and the [Toxics Use Reduction Institute](#) (TURI) have revealed many benefits of the wet cleaning process, as summarized in Figure 3.

Figure 3 - Wet Cleaning Evaluation

	Effectiveness	Most garments can be safely wet cleaned in a cost-effective manner. Changes in color are not a significant problem in wet cleaning. 25-30% of garments in any shop do not have a "Dry Clean Only" label and should be wet cleaned if possible.
	Financial Impact	The financial profile of a wet cleaner is essentially the same as the profile of a dry cleaner. There are cost savings related to hazardous waste disposal.
	Environmental Impact	Associated with fewer regulations and requirements. Not a significant concern to wastewater treatment officials. Wet cleaning is safer than traditional dry cleaning for employees, for customers and for communities.
	Other	A strong customer demand exists for alternative garment cleaning methods. Wet cleaning is viable in both mixed use and 100% settings

More information can be found on the CNT and TURI websites.

How can I reduce my air emissions and improve compliance?

Some simple steps your shop can take to reduce your air pollution emissions and improve your compliance include:

1. Consider solvents and techniques that have been developed as alternatives to PERC, including silicon-based products, glycol ether products and liquid carbon dioxide
2. When upgrading, buy energy efficient equipment and appliances
3. Consider wet cleaning techniques
4. Minimize the time machine doors and button traps are open to reduce solvent losses
5. Operate and maintain all equipment according to manufacturer's instructions
6. Allow the drying cycle to complete before opening the door. "Short cycling" reduces the effectiveness of solvent recovery equipment and increases fugitive emissions of solvents from the machine
7. Clean lint screens regularly to avoid clogging of fans and condensers
8. Repair leaks promptly
9. Use spigots and pumps when dispensing new materials and funnels when transferring wastes to storage containers to reduce possibilities of spills
10. Keep all PERC wastes in non-leaking, covered containers
11. Consider using water-based pre-spotters instead of those containing solvents
12. Consider using petroleum solvents that have higher flash points and lower volatile organic compound (VOC) content

Self-Assessment Check – Air Pollution Requirements

Any shaded areas indicate the need for further assessment or identifies a potential compliance area that should be addressed. Need help determining your compliance with regulations or determining your next steps? Contact OCAPP at 800-329-7518 for free and confidential assistance.

1) Do you have valid air permits for machines that use perchloroethylene (PERC)?	☐ Yes	☐ No	☐ N/A
2) Do you keep all records required by your air permit(s) including: PERC purchase receipts, rolling, 12-month total of PERC purchases, machine leak checks and repairs, refrigerated condenser temperature (or pressure) checks, the annual amount (pounds) of fabric cleaned with PERC	☐ Yes	☐ No	☐ N/A
3) Do you retain the record for 5-years?	☐ Yes	☐ No	☐ N/A
4) Have you determined whether any machines that use alternative solvents are exempt from air permitting?	☐ Yes	☐ No	☐ N/A
5) Have you submitted the Initial Notification Report?	☐ Yes	☐ No	☐ N/A
6) Have you submitted the Compliance Report for Control Requirements?	☐ Yes	☐ No	☐ N/A
7) Have you submitted the Compliance Report for Pollution Prevention?	☐ Yes	☐ No	☐ N/A
8) Do you operate a PERC machine at a shop that is co-located with a residence?	☐ Yes	☐ No	☐ N/A
9) Do you operate a transfer machine?	☐ Yes	☐ No	☐ N/A
10) 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	☐ N/A
11) Do you keep the dry-cleaning machine door closed except when loading and unloading?	☐ Yes	☐ No	☐ N/A
12) Do you operate each machine and each control device according to the design specification?	☐ Yes	☐ No	☐ N/A
13) Do you keep the manufacturer's design specifications and operating manuals for each machine and each control device at your shop?	☐ Yes	☐ No	☐ N/A
14) Do you keep PERC and waste solvent in closed, non-leaking containers?	☐ Yes	☐ No	☐ N/A
15) Do you drain used cartridge filters for at least 24-hours?	☐ Yes	☐ No	☐ N/A
16) 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)?	☐ Yes	☐ No	☐ N/A
17) Do you fix any leaks within the allotted time and keep a log of all leak checks and repairs?	☐ Yes	☐ No	☐ N/A
18) If your machine was installed after December 9, 1991 does it comply with the following:	☐ Yes	☐ No	☐ N/A
a) Is your machine(s) a dry-to-dry machine?	☐ Yes	☐ No	☐ N/A
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	☐ Yes	☐ No	☐ N/A
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?	☐ Yes	☐ No	☐ N/A
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?	☐ Yes	☐ No	☐ N/A
e) Do you maintain the refrigerated condenser outlet temperature below 45°F	☐ Yes	☐ No	☐ N/A
19) Has your shop ever used more than 1,800-gallons of PERC per year?	☐ Yes	☐ No	☐ N/A

Wastewater Requirements

Wastewater discharges from dry-cleaning operations are regulated under Ohio's water pollution control laws. Your shop may also generate wastewater from equipment cleaning, mopping floors, or other sources. This is known as industrial or process wastewater.

You cannot discharge industrial wastewater directly:

- to storm sewers or storm drains
- to a drain or sewer system if you do not know where it leads
- outside of your building or on the ground; or
- to a ditch, creek, river or other water body without a permit from Ohio EPA

Discharges to a public 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 Ohio EPA [pretreatment program webpage](#). If your POTW does not have an approved program, Ohio EPA's Division of Surface Water is responsible for regulating dischargers and issuing permits.

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 to 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 (such as 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. Construction of a wastewater treatment system requires a separate PTI from Ohio EPA's Division of Surface Water.

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

Discharges to an on-site sewage treatment system

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 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 Environmental Response and Revitalization. You will 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.

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.

Discharges to a floor drain

Floor drains are found at many small businesses, including dry cleaners. A common floor drain system includes a concrete trench that runs down the center of the shop floor. The trench is designed to capture water, cleaners, oil, dirt, or other materials. Some shops have small, rectangular, or round floor drains connected to underground piping.

Some floor drains are necessary for day-to-day operations. Others are used for emergency purposes only. And some floor drains don't seem to have any apparent use.

It is very important that you know where all your floor drains lead and are aware of Ohio EPA's regulations that apply to your discharge activities. Floor drains that are not properly used can contaminate nearby surface waters or ground waters.

If your floor drains discharge to a POTW, you must contact and discuss your activities with them in case you need a permit from the POTW for the discharge. For additional information, refer to the Discharges to a public wastewater treatment plant section above or Ohio EPA's [***Do You Know Where Your Floor Drains Go?***](#) fact sheet. Floor drains that discharge to a storm sewer, ditch, creek or other "waters of the state" need a permit from the Ohio EPA.

Consider locating in an area with access to city water and sewer. This can make wastewater management much easier and less costly.



If your floor drains discharge to waters of the state, you must stop these discharges and obtain a permit from Ohio EPA or find another way to manage your wastewater.

How can I reduce my wastewater and improve compliance?

Some simple steps your shop can take to reduce the amount of wastewater you generate and improve your compliance include:

1. Keep dry-cleaning equipment in good condition, with no leaks
2. Inspect equipment regularly
3. Keep your shop clean and your floors dry. Sweep floors and use dry or damp clean-up techniques.
4. If it becomes necessary to wash the floor, use only the quantity of water needed to produce the appropriate level of cleanliness. Flushing floor-wash wastewater outside constitutes an illegal discharge.
5. Use spigots and pumps when dispensing new materials and funnels when transferring wastes to storage containers to reduce the possibility of spills
6. Check all your floor drains and make sure you know where they drain
7. DO NOT put other fluids like solvents or chemicals into a floor drain. This could contaminate your property and expose you to large fines and clean-up costs

Self-Assessment Check: Wastewater Requirements

Any shaded areas indicate the need for further assessment or identifies a potential compliance area that should be addressed. Need help determining your compliance with regulations or determining your next steps? Contact OCAPP at 800-329-7518 for free and confidential assistance.

1) Do you know where your floor drains discharge to?	☐ Yes	☐ No	☐ N/A
2) If your wastewater goes to a creek, river or other water of the state, do you have a discharge (NPDES) permit from Ohio EPA?	☐ Yes	☐ No	☐ N/A
3) If your wastewater goes to a public wastewater treatment plant, do you have permission or a permit for the discharge?	☐ Yes	☐ No	☐ N/A
4) Does your wastewater go to a dry well, cesspool, septic tank, or leach field	☐ Yes	☐ No	☐ N/A
5) Does your wastewater go to a storm drain?	☐ Yes	☐ No	☐ N/A
6) Do you discharge wastewater outside on the ground?	☐ Yes	☐ No	☐ N/A
7) If your shop has an on-site septic system for discharges from restroom sinks, toilets etc., has it been approved by the Ohio EPA or your local health department?	☐ Yes	☐ No	☐ N/A
8) If your shop has an on-site septic system, do you make sure that only sanitary wastewater from restroom sinks, toilets etc., is sent to the septic system (no process wastewater or chemicals)?	☐ Yes	☐ No	☐ N/A

Where can I find additional help?

OCAPP

Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) is a free and confidential resource to help small businesses comply with environmental regulations and permit requirements. Our environmental specialists can answer your questions regarding air, waste, water and other EPA regulatory requirements and help find ways to reduce waste and save money. OCAPP provides:

- Toll-free hotline - 800-329-7518
- Free on-site compliance and pollution prevention assessments
- Help with permit applications and forms
- Assistance with material reuse and recycling
- Environmental workshops
- Easy-to-understand publications and guidance documents

To keep up-to-date with any changes in the laws and for updates to this guide, [*visit OCAPP's webpage*](#).

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.

OAQDA

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 ([*OAQDA*](#)) at 800-225-5051.

The OAQDA supports the [*Clean Air Resource Center*](#) (CARC). CARC is an independent, non-regulatory state agency, it is not part of the Ohio EPA. CARC does not enforce air quality regulations, rather it 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.