

Environmental Guide

FOR GEORGIA DRY CLEANERS

This guide was prepared by the Georgia Environmental Protection Division (EPD) to help dry cleaners comply with the environmental regulations in Georgia. This guide and the full text of the Georgia EPD regulations can be downloaded from our web page or obtained free of charge by contacting the Georgia Environmental Protection Division (EPD) listed under contacts and websites inside this guide.

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INTRODUCTION

This guide is for operators and owners of dry cleaning businesses in Georgia. The purpose of this guide is to help protect our environment by providing guidance to these businesses and assisting them in complying with the state and federal environmental laws as they relate to the dry cleaning industry. This guide is one of the many ways in which Georgia DNR provides assistance and encourages compliance with the environmental laws and regulations.

In addition to providing information about environmental laws and regulations, this guide offers tips on how to reduce and prevent pollution of the environment, and comply with industry specific environmental laws and regulations. Properly using these tips can help you save money and may help you avoid serious violations of environmental laws. Please take time to review the reference section of this guide for more specific information or questions that you may have as it relates to your business and specific situation. Important contact numbers and website addresses are also provided in this guide for your convenience.

You may obtain a copy of this guide from the Internet at www.dnr.state.ga.us/epd, select technical guidance on the left side of the screen, scroll down on the right side of the screen to Hazardous Waste Management, select Environmental Guide for Georgia Dry Cleaners, and then download to your c: hard drive.

HAZARDOUS WASTE

Dry cleaners routinely generate several waste materials that may be considered hazardous waste. These waste materials include perchloroethylene, ignitable (less than 140 degrees F) dry cleaning solvents, still residues from distillation, filters containing perchloroethylene, mop water, and separator water. If you dry clean shop rags, printer rags, and paint body shop rags, your non-hazardous petroleum solvent, sludge, and filters may pick up toxic metals and become hazardous waste.

If these waste materials are not handled correctly, they can harm people and the environment when improperly stored or thrown away. Improper handling of hazardous waste is against the law and can result in fines and expensive clean up work. Therefore, this guide has been developed to assist the dry cleaning industry in the proper handling of hazardous wastes, as required by Georgia's Rules for Hazardous Waste Management, Chapter 391-3-11 (Rules).

What Is a Hazardous Waste?

A waste is any solid, liquid, or contained gaseous material no longer useful to your company that can be thrown away.

Your company may generate waste that can pollute the air, water and/or land if it is not handled and disposed of carefully. These wastes are considered hazardous, and they are currently regulated by Federal and State environmental laws.

There are two types of hazardous waste that companies can generate:

- A. Characteristic Hazardous Waste
- B. Listed Hazardous Waste

Characteristic Hazardous Wastes

A waste is classified as a characteristic hazardous waste if it has one of the following four characteristics:

1. **Ignitability:** It is easily ignited and has a flashpoint of less than 140°F. Examples of ignitable wastes are Stoddard solvent and naphtha. These wastes have an EPA Hazardous Waste Number of D001 that denotes an ignitable characteristic hazardous waste.
2. **Corrosivity:** It dissolves metals and other materials, burns the skin, and has a pH of 2 or less or 12.5 or greater. Examples are waste acid and alkaline cleaning fluids. Corrosive wastes have an EPA Hazardous Waste Number of D002.
3. **Reactivity:** It is unstable or undergoes a rapid and\or violent change with water or other materials. An example is a mixture of Clorox and ammonia. Reactive wastes have an EPA Hazardous Waste Number of D003.
4. **Toxicity:** It is toxic as determined by laboratory testing (a lab test commonly known as the Toxicity Characteristic Leaching Procedure [TCLP]). These wastes contain dangerous amounts of metals, pesticides, herbicides, and organic chemicals. The EPA Hazardous Waste Numbers for materials that have the toxicity characteristic have Hazardous Waste Numbers **D004 - D043**. The list of toxic materials contains eight metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver), four pesticides, two herbicides, and twenty-five organic chemicals. Examples of characteristic toxic waste for dry cleaners are perchloroethylene (also known as perc, PCE, tetrachloroethylene, tetrachloroethene, or TCE), which has the Hazardous Waste Number **D039**, and trichloroethylene, which has the Hazardous Waste Number **D040** (See Table 2).

Listed Hazardous Wastes

Your waste is classified as a hazardous waste if it appears on any one of the four lists of hazardous wastes found in the hazardous waste regulations. These wastes have been listed because they almost always exhibit one of the hazardous waste characteristics described or contain any number of toxic chemicals that have been shown to be harmful to human health and the environment. The regulations list over 400 hazardous wastes, including waste derived from manufacturing processes and chemicals that are thrown away. A list of the wastes that may be generated by your company can be found in Table 2.

Determining If Your Waste is “Hazardous”

You can determine if your company is generating a hazardous waste by one of the following three ways:

1. When ordering products for your facility, request that a Material Safety Data Sheet (MSDS) accompanies the products when shipped to you. Review the MSDS sheet to see if the product contains hazardous materials. If you dispose of the hazardous material, it may be a hazardous waste; or
2. Determine if the waste is listed as a hazardous waste (Table 2); or
3. Collect and send a sample of the waste to a laboratory for hazardous waste characteristics determination.

 **Dry Cleaner Tip:**

If you determine a waste is listed as a hazardous waste like used perc (F002), you do not need to have it tested for the four hazardous waste characteristics.

Categories of Hazardous Waste Generators

There are three categories of hazardous waste generators:

- Conditionally Exempt Small Quantity Generators
- Small Quantity Generators
- Large Quantity Generators

Conditionally Exempt Small Quantity Generator (CESQG) is defined as any generator of hazardous waste that **produces a total of less than or equal to 220 pounds of hazardous waste in any month and stores no more than 2,200 pounds on site at any time.**

Small Quantity Generator (SQG) is defined as any generator of hazardous waste that **produces more than 220 and less than 2,200 pounds of hazardous waste in any month and stores no more than 13,200 pounds on site at any time.**

Large Quantity Generator (LQG) is defined as any generator of hazardous waste that **produces a total of 2,200 pounds or more of hazardous waste in any month.**

 **Dry Cleaner Tip:**

A CESQG's hazardous waste is exempt from regulation but it is recommended that your filters and still residues be placed inside a heavy plastic bag that is sealed before disposal.

It is most advantageous to achieve and maintain the CESQG status since less hazardous waste is produced and the regulatory requirements for CESQG are considerably less than for SQG or LQG

What You Must Do as a Hazardous Waste Generator

Once your company determines that it is generating hazardous wastes, you must:

Determine your generator status (CESQG, SQG or LQG as described above); and

Comply with the hazardous waste regulations, which are applicable to the amount of hazardous waste produced per month by your company (See Table 1 Hazardous Waste Generator Requirements).

If you determine your generator status to be small quantity or large quantity:

Please call (404) 657-8831 or write the **Georgia Environmental Protection Division, Generator Compliance Program, 205 Butler Street, SE, Suite 1066, Atlanta, Georgia 30334**, and ask for a free copy of the "Notification of Regulated Waste Activity" guide. This guide contains a Notification of Regulated Waste Activity Form (EPA Form 8700-12) that must be completed and returned to the Georgia Environmental Protection Division.

You may obtain a copy of 8700-12 from the Internet at www.dnr.state.ga.us/epd, select EPD Forms, scroll to Hazardous Waste Management, select EPA Form 8700-12, and then download the form to your c: hard drive. Once we receive this completed form, your company will receive its Environmental Protection Agency Identification (EPA I.D.) Number for your location.

 **Dry Cleaner Tip:**

One full 15-gallon drum of used perc (F002) = 202 pounds of hazardous waste. This representation assumes the waste is Perchloroethylene that weighs 13.47 pounds per gallon. Your hazardous waste could weigh more or less depending on its weight per gallon. Call your supplier for the original weight of the product.

Water/Perc Separator

Perchloroethylene wastewater (F002) is generated from the water/perc mixture. Separator water should not be poured down your septic tank or sanitary sewer (drain), poured out the back door onto the ground, or evaporated in an open boiling pot. Perc is heavier than water. Therefore, it will seep or sink to the bottom. Perc can seep out at the joints in the sanitary sewer line, seep through the bottom of the concrete septic tank, and, if poured out the back door will sink through the soil into the groundwater, which may contaminate drinking water.

Do not evaporate perc separator water in an open boiling pot. Improperly evaporating the separator water in an open boiling pot causes the perc to be emitted to the air where it condenses, then falls to the floor and can seep through the concrete slab.

 **Dry Cleaner Tip:**

Any water that has come into direct contact with perc is a listed hazardous waste with a hazardous waste number of F002. (See Hazardous Waste, Table 2, page 10).

Separator, spotting board, and vacuum press water should be disposed of as hazardous waste or treated by passing it through a carbon filter to remove the perc. The filtered water can then be placed in a mister or evaporator. The International Fabricare Institute (IFI) received a letter from EPA dated June 2, 1993, giving all dry cleaners an exemption to treat their separator water in a tank under the Clean Water Act wastewater treatment exemption.

To receive a copy of this exemption letter from EPA's fax back: Call (202) 651-2060 from your fax machine and follow the instructions to enter document # 11749. For more information on this exemption contact EPA at 1-(800) 424-9346 or IFI at (301) 622-1900.

No Septic Tank System Discharge Allowed

If any amount of hazardous waste including perc separator water is discharged to a septic tank system, you must immediately notify the Georgia Geologic Survey's Underground Injection Control Program at (404) 656-3214.

Blow down Wastewater

Many dry cleaners generate wastewater streams from the boiler blow down and chiller/cooler blow down. These wastewater streams can be discharged into a septic tank or the sanitary sewer. Contact your local County Environmental Health Specialist for septic tank discharges or your local industrial wastewater pretreatment coordinator for sewer discharges to request written approval for these discharges.

What to Do in Case of a Spill

Whenever *any amount of solvent* is spilled onto concrete or soil, the solvent must be cleaned up, recycled or disposed of at a permitted facility. The following clean-up procedures for solvent spills are recommended:

1. *If the spill occurs on a concrete floor or the area where drums are stored*, you should immediately use an absorbent material (blanket, rags or cloths) until there is no solvent remaining on the floor. Place the absorbent blanket, rags and/or cloths into the recovery dryer to reclaim the spilled solvent, or in a hazardous waste container to ship off-site for disposal.
2. *If the spill occurs on the soil*, we recommend that the solvent stained soil be removed **immediately**, placed in a closed metal drum, labeled hazardous waste, and dated. You should then call both of the following agencies immediately to report a spill of 100 pounds or more of perc onto soil: National Response Center at 1-(800) 424-8802 and State of Georgia Emergency Operations Center at 1-(800) 241-4113.

A cleanup of a spill within 30 days will relieve the facility from having to submit a release notification form and possibly from being listed on the annual Hazardous Site Inventory. (See Hazardous Site Response, Notification Requirements, page 12).

Dry Cleaner Tip:

Very small amounts of perc can cause soil and groundwater contamination, so be extremely careful not to spill any, and clean up spills immediately and thoroughly.

The best management practice to prevent a spill is to use a spill pan under all perchlorethylene waste containers. The best practice to prevent a discharge is to block off all drains in the dry cleaning area and coat the floors with a non-porous epoxy coating. (See Pollution Prevention, Best Management Practices, page 17)

The following table is a summary of the requirements for the 3 types of hazardous waste generators. The X's in the columns for CESQG, SQG, and LQG are the requirements that you must meet to stay in compliance with the hazardous waste regulations. If you need a copy of these Rules, please call the Georgia Environmental Protection Division at (404) 657-8831 and we will mail you a copy of the State Rules free of charge. The Rules are also available on EPD's web page at www.dnr.state.ga.us/epd.

TABLE 1. HAZARDOUS WASTE GENERATOR REQUIREMENTS

	CESQG	SQG	LQG
INITIAL REQUIREMENTS			
Identify the hazardous wastes produced by your company. Store in closed, non-leaking containers.	X	X	X
Obtain an Environmental Protection Agency Identification number.		X	X
CONTAINER MANAGEMENT			
Package waste in Department Of Transportation (DOT) approved containers.		X	X
Label drums with a hazardous waste label or words telling what the drum contains during accumulation of the waste.		X	X
Keep all hazardous waste drums closed and secure unless you are adding or removing hazardous waste.		X	X
Place a hazardous waste label on a full accumulation drum, fill in the date and the rest of the information on the label, and move it to the hazardous waste storage area within three days.		X	X
Inspect container (drum) storage area weekly and/or inspect tanks daily and keep a written log.		X	X
CONTINGENCY PLAN			
Post the following information next to the telephone in the hazardous waste storage area: Name and telephone number of the emergency coordinator, the telephone number of the closest fire department or 911, location of fire extinguishers, spill control materials, and fire alarm location.		X	
Select an emergency coordinator, prepare a Contingency Plan, and develop an annual Personnel Training Program.			X
DISPOSAL			
CESQGs must dispose of hazardous wastes at a Solid Waste Disposal Facility permitted by the state for industrial or municipal wastes (such as garbage, trash, or recycling) or a permitted Hazardous Waste Treatment, Storage, and Disposal (TSD) Facility.	X		
SQGs and LQGs must dispose of their hazardous wastes at a permitted, hazardous waste Treatment, Storage, and Disposal (TSD) Facility.		X	X
MANIFEST AND LAND DISPOSAL RESTRICTIONS (LDR)			
Arrange to ship off-site to a TSD Facility all hazardous wastes using the Uniform Hazardous Waste Manifest. Use a hazardous waste transporter with an EPA ID number.		X	X
Attach a Land Disposal Restriction (LDR) notification form to each Uniform Hazardous Waste Manifest to let the permitted Treatment, Storage and Disposal (TSD) Facility know the LDR requirements for the waste.		X	X
REPORTING AND RECORD KEEPING			
Keep weekly container (drum) storage inspection and/or daily tank inspection logs.		X	X
Calculate and pay annual Hazardous Waste Management Fees by July 1.		X	X
Keep copies of all signed manifests for at least three years from the date of transport.		X	X
Keep copies of any test results, waste analyses, or other lab information for at least three years from the date you shipped your waste off-site.		X	X
Keep copies of Land Disposal Restrictions (LDR) notifications (a form that is used to certify that your waste has been properly treated before disposal on land) and waste analyses for at least three years from the date you shipped your waste off-site.		X	X
Mail a Hazardous Waste Report and Hazardous Waste Reduction Plan to the Georgia Environmental Protection Division every two years (Biennial Report) on forms that summarize the types and quantities of hazardous waste generated, methods of disposal, and efforts made towards reducing your waste and the results of those efforts.			X

STORAGE			
Store no more than 2,200 pounds of hazardous waste on the property. If you store more than 2,200 pounds, then you become an SQG and must comply with SQG requirements.	X		
Store no more than 13,200 pounds of hazardous waste on the property. If you store more than this amount at any time, you will need to obtain a hazardous waste storage permit.		X	
Your facility can store the waste on-site for no longer than 180 days (270 days if transporting to a disposal facility 200 or more miles away). If you store for more than 180 days, you will need to obtain a hazardous waste storage permit.		X	
Store the wastes on-site for no longer than 90 days. If you store for more than 90 days, you will need to obtain a hazardous waste storage permit.			X
TRAINING			
Develop a training plan for employees that handle hazardous waste. Ensure that employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal operations and emergencies.		X	
Complete an annual program of classroom instruction or on-the-job training on hazardous waste for personnel that handle hazardous waste.			X

Source: Code of Federal Regulations (CFR) Title 40, Parts 262 - Standards Applicable to Generators of Hazardous Waste, 268 - Land Disposal Restrictions and State of Georgia Rules of Hazardous Waste Management sections 391-3-11-08 and 391-3-19-03.

TABLE 2. TYPICAL DRY CLEANER HAZARDOUS WASTE

TYPICAL WASTE	EPA HAZARDOUS WASTE NUMBER	SUGGESTED HAZARDOUS WASTE REDUCTION
SPOTTING BOARD		
Unused chemicals for disposal (Example Trichloroethylene)	U228 (Listed for unused solvent)	Use up product until container is empty before disposal.
Flash point less than 140 degrees Fahrenheit (F)	D001 (Characteristic of ignitability)	Use water-based, biodegradable spot removers or a solvent with a flash point equal to or greater than 140 degrees F.
Trichloroethylene	D040 (Characteristic of toxicity)	Use less toxic, non-ozone depleting spot removers.
PETROLEUM SOLVENT		
Flash point less than 140 degrees Fahrenheit (F)	D001	Use a solvent with a flash point equal to or greater than 140 degrees F.
Still residues from distillation	D001	Use a solvent with a flash point equal to or greater than 140 degrees F.

PERCHLOROETHYLENE	(Also known as perc, PCE, tetrachloroethylene, tetrachloroethene, or TCE)	
Activated carbon from carbon adsorber, used	F002 (Listed for used solvent)	Regenerate the carbon in the carbon adsorber for the 20-year life before disposal.
Button trap and lint trap waste	D039 (Characteristic of toxicity)	Place on top of a raised screen in a closed container for 24 hours to drain. Recover perc for reuse. Place trash and lint in hazardous waste drum.
Carbon core filter cartridges, used	F002	Place on top of a raised screen in a closed container for 24 hours to drain. Then place filter in a sparging unit and use steam to strip the perc, which will not drain out. Recover perc for reuse. Place cartridge in hazardous waste drum.
Diatomaceous/carbon filter powder, cooked	F002	Use a muck cooker to reduce solvent waste by condensing and reclaiming solvents.
Liquid solvent, used	F002 (Listed for used solvent)	Distill solvent on-site and store with lids tightly fastened.
Mister or evaporator filters, used	F002	Use activated carbon filters that yield perc-free water.
Paper filter cartridges, used	F002	Place on top of a raised screen in a closed container for 24 hours and/or over a weekend to drain. Recover perc for reuse. Place cartridge in hazardous waste drum. Replace paper cartridges with a spin disk filtration system.
Still residues from distillation	F002	Redistill residues by adding steam after the first boil-down and then boil-down a second time to recover more perc.
Vacuum press water from steam presses	D039 Characteristic of toxicity	Use activated carbon filters that yield perc-free water before pouring water into evaporator.
Water/perc separator	F002	Install a cooling coil in the separator to recover more perc.
UNIVERSAL WASTE		
Fluorescent lamps, used	D009 (Characteristic of toxicity for mercury)	Send to a lamp recycler*
Thermostat, used	D009	Send to a lamp recycler*
Nickel - cadmium batteries, used	D006 (Characteristic of toxicity for cadmium)	Send to a battery recycler*

*Call the Georgia EPD at (404) 657-8831 to receive a list of recyclers

HAZARDOUS SITE RESPONSE

The Georgia Legislature passed the Georgia Hazardous Site Response Act (HSRA) in 1992. This Act requires all hazardous waste generator facilities in Georgia to pay a fee based upon the amount of hazardous waste generated each year. The fees collected from hazardous waste generators are used to clean up abandoned hazardous waste sites in Georgia.

Fees

Dry cleaners who generate and ship their hazardous waste off-site for treatment, storage, disposal, incineration, or recycling are required to pay hazardous waste fees based upon the amount of hazardous waste generated each year. Most dry cleaners are either conditionally exempt small quantity generators (CESQGs) who produce less than or equal to 220 pounds of hazardous waste in any month of the year, or small quantity generators (SQGs) who produce more than 220 pounds and less than 2,200 pounds of hazardous waste in any month of the year. A few dry cleaners are large quantity generators (LQG) who produce greater than 2,200 pounds in any month of the year.

Conditionally exempt small quantity generators do not have to pay any hazardous wastes fees. Small quantity generators are required to pay an *annual fee of \$100.00*. Large quantity generators must pay fees on a per ton rate. See Table 3 for fees owed by LQGs who ship their waste off-site.

A Large Quantity Generator must submit Hazardous Waste Management Fee Records to the Georgia EPD at the following address by March 31 of each year:

**Hazardous Sites Response Program
205 Butler Street, SE, Suite 1462
Atlanta, Georgia 30334
Attention: Trust Fund Coordinator**

All hazardous waste fees must be mailed to the Georgia EPD at the following address by July 1, following the year in which the wastes were shipped off-site:

**Hazardous Waste Fees
P. O. Box 101190
Atlanta, Georgia 30392**

Notification Requirements

Any owner of property where there is a release of a regulated substance subject to notification under the Rules must *notify EPD within thirty days of the owner's discovery of the release*. The regulated substances are listed in Appendix 1 of the Rules.

Forms for Release Notification are available on the Internet at www.dnr.state.ga.us/epd, then select EPD Forms, scroll down to Hazardous Sites Cleanup, select release notification/reporting form, and then download the form to your c: hard drive. To receive a copy in the mail call (404) 657-8600.

Releases are commonly discovered during Phase II Environmental Assessments, which are conducted when property is being sold or loans are refinanced. Releases to the environment at dry cleaners usually consist of dry cleaning solvents and the breakdown products of those solvents. Table 4 shows perchloroethylene and its breakdown products in soil.

Most releases from dry cleaning facilities are the result of accidental spills, leaking underground dry cleaning solvent storage tanks, past disposal practices such as “dumping spent solvent or sludge out the back door,” or placing spent filters or sludge in dumpsters, which are not watertight.

The three types of dry cleaner spills or releases subject to notification are:

1. A spill or release of perc, petroleum, or another regulated substance which causes the amount of it found in the groundwater to be more than the naturally-occurring background concentration. For dry cleaning solvents, this means any concentration found above the laboratory's detection limit
2. A release of a regulated substance, which causes the concentration in soil to exceed a concentration in Appendix 1 of the Hazardous Site Response Rules.
3. The throwing away, discarding or abandonment of a regulated substance in barrels, drums, other containers, tanks, storage or transportation vessels, process units or waste management units. For example, this would include an abandoned dry cleaning machine with used filters left in it.

TABLE 3. LARGE QUANTITY GENERATOR HAZARDOUS WASTE FEES

Method of Handling Waste Off-site	Fee per Ton of Hazardous Waste
If you sent your hazardous waste to a company permitted to dispose of it	\$20.00
If you sent your hazardous waste to a company permitted to treat or store hazardous waste	\$16.00
If you sent your hazardous waste to a company permitted to burn hazardous waste for energy recovery	\$9.00
If you sent your hazardous waste to a company permitted to recycle or reuse hazardous waste	\$2.00
Source: State of Georgia Rules Chapter 391-3-19-.03	

TABLE 4. PERCHLOROETHYLENE AND ITS BREAKDOWN PRODUCTS

Chemical Name	If you find this concentration in soil, notification is required (Appendix 1 of the Rules).
Perchloroethylene (also known as perc, PCE, tetrachloroethylene, tetrachloroethene, or TCE)	0.18 mg/kg
Trichloroethylene	0.13 mg/kg
Dichloroethylene N.O.S. (Not Otherwise Specified)	0.53 mg/kg
Vinyl chloride	0.04 mg/kg
Ethene or ethylene	Not a regulated substance
Source: State of Georgia Rules Chapter 391-3-19 (Appendix 1) IF ANY OF THESE CHEMICALS ARE DETECTED IN GROUNDWATER, NOTIFICATION IS REQUIRED.	

Each notification is reviewed to see if a spill or release that exceeds a reportable quantity has occurred or if a spill or release may harm people and/or the environment. If so, the site will be listed on the Hazardous Sites Inventory (HSI). Then the Georgia Environmental Protection Division will contact the owner and all responsible parties and tell them what the Georgia Hazardous Site Response Act requires them to do.

The **Hazardous Site Response Act** is available on the Internet at www.ganet.org, then select legal, select GaNetAuthority, select GaCode, then type in 12-8-90, browse the Act, or download to your c: hard drive. To receive a copy in the mail call (404) 657-8600.

The **Hazardous Site Response Rules** are available on the Internet at www.dnr.state.ga.us/epd, then select EPD Rules, select 391-3-19 Hazardous Site Response Rule, browse the Rule, or download to your c: hard drive. To receive a copy in the mail call (404) 657-8600.

Forms for Release Notification are available on the Internet at www.dnr.state.ga.us/epd, then select EPD Forms, scroll down to Hazardous Sites Cleanup, select release notification/reporting form, and then download the form to your c: hard drive. To receive a copy in the mail call (404) 657-8600.

 **Dry Cleaner Tip:**

Sometimes dry cleaners are confused about how to calculate their annual hazardous waste fees. Remember that:

1. CESQGs pay no fees.
2. SQGs pay a flat fee annually of \$100.
3. LQGs pay variable fees based upon the number of tons produced per month (See Table 3).

Note: *Hazardous waste fees must be paid on the amount of hazardous waste produced each month and this may be more or less than the amount shipped off-site for disposal on your manifest each month.*

AIR PROTECTION

Dry cleaners are regulated under Title III of the 1990 Federal Clean Air Act. As of February 21, 1994, all dry cleaners using perchloroethylene (also known as perc, PCE, Tetrachloroethylene, TCE, or tetrachloroethene) at their company had to submit their initial notification to:

**Georgia Environmental Protection Division
Air Protection Branch
4244 International Parkway, Suite 120
Atlanta, Georgia 30354.**

Perc is the most commonly used dry cleaning solvent. All drop off facilities (those without on-site cleaning machines) are exempt from these perc requirements.

This section provides a general overview of the air quality regulations affecting dry cleaners that use perc. All perc dry cleaners are regulated as small, large, or major area sources. You must determine your source classification from the amount of perc you purchase per year from Table 5.

TABLE 5. SOURCE CLASSIFICATION FOR PERC

Dry cleaning facilities which operate this type of machine	Small area source - Those purchasing less than this amount of perc per year	Large area source - Those purchasing within these amounts of perc per year	Major Source - Those purchasing greater than this amount of perc per year
Dry-to-Dry only	140 gallons	140-2,100 gallons	2,100 gallons
Dry-to-Dry and/or Transfer	140 gallons	140-1,800 gallons	1,800 gallons
Transfer only	200 gallons	200-1,800 gallons	1,800 gallons

Source: Federal Clean Air Regulations, Title 40 Code of Federal Regulations Part 63, Subpart M.

Now that you know your source classification, you must perform the pollution prevention and leak detection, monitoring, and record-keeping requirements for perc dry cleaners in your source classification listed in Table 6

TABLE 6. AIR PROTECTION REQUIREMENTS FOR PERC

ACTIVITY	SMALL AREA	LARGE AREA	MAJOR
Control Requirements			
Machines installed before December 9, 1991, must have controls installed by September 23, 1996.		X	X
After December 9, 1991, new dry-to-dry machines must have a refrigerated condenser.	X	X	X
No new transfer machines after 12/9/93.	X	X	X
Pollution Prevention and Leak Detection			
Conduct leak detection inspections once every two weeks (biweekly).	X		
Conduct weekly leak detection inspections.		X	X
Conduct leak detection inspection for harmful, escaping vapors; repair leaks within 24 hours or order parts within 2 working days after detection. Install parts within 5 working days after receipt.	X	X	X
Store perc and perc hazardous waste in closed, non-leaking containers.	X	X	X
Drain cartridge filters in their housing or closed containers for at least 24 hours before disposal.	X	X	X
Keep machine doors closed except when loading and unloading clothes.	X	X	X
Operate and maintain equipment according to manufacturer's instructions.	X	X	X
Monitoring			
Measure (weekly) the temperature of the gas-vapor at the outlet side of the refrigerated condenser and record the results. Make repairs or adjustments within 24 hours and record those repairs on your Georgia Dry Cleaner Compliance Calendar*.		X	X
Measure (weekly) the concentration of perc in the exhaust gas from the carbon absorber using a colorimetric tube and record on the Georgia Dry Cleaner Compliance Calendar.	X	X	X
Reporting and Record keeping			
Submit an initial notification report and Compliance Report for Pollution Prevention to Air Protection Branch, Georgia Environmental Protection Division upon start up. Resubmit this report if perc consumption increases, source category changes, new equipment is installed, or if ownership changes. (See address page 15)	X	X	X
Keep owner's manual and design specifications for dry cleaning and control equipment on-site.	X	X	X
Maintain and keep records on-site in the Georgia Compliance Calendar of perc purchases, leak detection/repair, and monitoring parameters for a minimum of 5 years.	X	X	X

Source: Federal Clean Air Regulations, Title 40 Code of Federal Regulations Part 63, Subpart M.

*To receive a free calendar or more information: Contact the Small Business Assistance Program at (404) 362-4842 or call toll free at 1-(877) 427-6255, if outside the Atlanta calling area.

POLLUTION PREVENTION

The Pollution Prevention Assistance Division provides confidential technical assistance to help Georgia companies improve their efficiency and reduce the generation of waste from their operations. For free technical assistance or an on-site assessment, call (404) 651-5120 or 1-(800) 685-2443.

Pollution prevention is the reduction or elimination of pollutants or wastes at the source. However, what you really want to do is to avoid producing the waste. Helpful information that companies can use to reduce or prevent pollution at dry cleaners are listed in the following sections of this guide:

1. Best Management Practices
2. Equipment Changes
3. Preventing Problems
4. Alternatives to Perchloroethylene

1. Best Management Practices

- Keep your storage and work areas neat, clean, and dry.
- Use spigots or pumps to pour liquids; hand transference or open buckets will increase solvent loss and spillage in the work area.
- Practice good inventory control. Place the date you bought materials on the container and use up all old materials before opening new ones.
- Keep all containers closed and properly labeled with the name of the product or waste.
- Reduce the amount of trash or waste by working with customers to use heavy-duty reusable garment bags, reuse/recycle hangers by bringing them back to the store, and recycle plastic wrap.
- Avoid under loading or overloading your machines.
- Place saturated lint on top of a raised screen in a closed waste container to drain and recover the perc for reuse.
- Make sure there are no leaks in storage or drainage containers.
- Keep machine doors closed at all times except when removing clothes.
- Clean button and lint traps on a regular basis. Open traps just long enough to clean them.
- Set solvents and wastes in a spill pan.
- Coat floor with a non-porous material to keep any spills from seeping through the concrete slab. Contact your dry cleaner supplier for the type of epoxy coating to use.

2. Equipment Changes

- Replace the cartridge filters with spin disk filters that can be cleaned without opening the machine.
- Install distillation equipment with an air pump and built-in rake that allows still bottoms to be removed without opening the still; this reduces the vapors from escaping.
- Use a carbon absorber that regenerates with hot air stripping rather than steam stripping.
- Replace a transfer machine with a dry-to-dry machine. If your dry-to-dry machines are old, consider buying a new closed-looped non-vented machine. Install a spill pan under the machine.

3. Preventing Problems

- **Immediately:** Repair any holes in air and exhaust ducts.
- **On a daily basis:** Clean lint screens and button traps.
- **On a weekly basis:**
 - ✓ Inspect all door gaskets to make sure that lint is not stuck on the gasket and causing a leak. Replace gaskets as needed.
 - ✓ Remove residue from distillation units. If not removed, it can reduce the efficiency of the distillation process.
 - ✓ Check tightness of hose connections and couplings.
 - ✓ Clean lint buildup on cooling condenser coils.
 - ✓ Clean drying sensors.

A preventive maintenance program on your equipment will make you money in the long run, because your customers will keep coming back when their clothes are clean and ready on time.

4. Alternatives to Perchloroethylene

Perchloroethylene (“Perc”) is the most commonly used dry cleaning solvent. However, there are several other alternatives for garment cleaning that are currently being used in the United States.

- **Petroleum solvent cleaning:** Petroleum solvents (sometimes called Stoddard solvent) can be used to clean a variety of different types of fabrics. The biggest drawback to using petroleum is its flammability, although some alternative cleaning solvents with less flammability are now being marketed as drop-in substitutes for petroleum solvents (greater than 140 degrees F). Petroleum solvents cannot be used in a perc dry cleaning machine. The benefit of petroleum solvent to the dry cleaner is reduced odor. Most used petroleum solvents are regulated as hazardous waste (See Hazardous Waste, Table 2, Page 10).
- **Wet Process Cleaning:** In this alternative, water is the primary cleaning solvent for the clothing. The wet cleaning process generally consists of four steps: 1. Visible stains are pre-treated with a variety of spotting agents; 2. then hand cleaned, or washed in a wet process machine; 3. garments are dried; and 4. garments are pressed and packaged the same as dry-cleaned clothes. Shrinkage of clothing is limited by choosing proper wet cleaning chemicals, drying methods, controlling water and drying temperatures, and properly managing agitation during the cleaning process. Wet cleaning generally requires additional labor costs, but equipment costs and regulations are reduced. Many cleaners who use the wet cleaning process also continue to operate a perc machine for use with some fabrics that cannot be wet cleaned.
- **Other Processes:** Ultrasonic, modified silicone solution, and carbon dioxide cleaning are not feasible for commercial operations at this time.

Resources and References

Resources for more information

Center for Neighborhood Technology - Technical assistance clearinghouse for information on alternative clothes cleaning processes. Web site includes information on research and demonstration projects, wet cleaning equipment lists, and a list of shops currently doing wet cleaning. (www.cnt.org/wetcleaning) or (773) 278-4800.

Enviro\$ense - Website - www.epa.gov/oeca - select Government and Business Sector and then select Dry Cleaner.

Fabricare Technology Center - Research, demonstration and training facility in Cleveland, Ohio. For more information, call (216) 987-3700.

Georgia Environmental Protection Division Dry Cleaner Compliance Calendar - Yearly calendar published to assistance Georgia's dry cleaners to keep a record of perc inspections and maintenance. For a free copy call (404) 362-4842 or call toll free 1-(887) 427-6255 from outside the Atlanta calling area.

U.S. EPA, Multimedia Inspection Guidance for Dry Cleaning Facilities, Document # EPA 305-B-96-001 - Manual contains a complete dry cleaner inspection checklist which can be used to perform a perc dry cleaner self audit. For a free copy, call 1-(800) 490-9198.

U.S. EPA, Perchloroethylene Dry Cleaning Facilities - General Recommended Operating and Maintenance Practices for Dry Cleaning Equipment, Document # EPA-4531R-94-073, October 1994 - Manual for dry cleaners with older machines who cannot obtain the manufacturer's instructions for their specific equipment. For a free copy, call (919) 541-1549.

References used in the Pollution Prevention Section

Metro-Dade County Department of Environmental Resources Management, *Pollution Prevention for Dry Cleaners*, August 1995.

Terry Obteshka, "P2 in Dry Cleaning," *Pollution Prevention Review*, Autumn 1997, p. 59.

University of Tennessee Center for Industrial Services, *Clearing the Air on Clean Air - Strategies for Perc Drycleaners*, undated.

U.S. EPA, *Profile of the Dry Cleaning Industry*, Document # EPA 310-R-95-001, September 1995.

Contacts and Websites

State of Georgia Environmental Protection Division (EPD)

Air Protection	(404) 363-7000
Geologic Survey	(404) 656-3214
Hazardous Waste.....	(404) 657-8831
Hazardous Site Response.....	(404) 657-8600
Water Protection.....	(404) 362-2680

EPD Website: www.dnr.state.ga.us/epd

Federal and State Non-Enforcement, Confidential Assistance

Federal EPA Hazardous Waste Hotline	(800) 424-9346
Georgia Pollution Prevention Assistance Division (P2AD)	(404) 651-5120
or call toll free	(800) 685-2443
GA P2AD Website: www.ganet.org/dnr/p2ad	
Georgia Small Business Assistance Program (SBAP)	(404) 362-4842
or call toll free	(877) 427-6255
GA SBAP Website: www.gasmallbiz.org	
Georgia Tech Waste Reduction and Environmental Compliance Program.....	(404) 894-3806
GA Tech Website: www.gtri.gatech.edu/wrec/	

Spills and Emergency Response

Note: You should immediately notify both the Federal and State agencies to report a spill of 100 pounds or more of perc to the environment.

National Response Center	(800) 424-8802
State of Georgia Emergency Response Center	(800) 241-4113

Trade Associations

International Fabricare Institute (IFI) (301) 622-1900

Website: www.ifi.org

Southeastern Fabricare Association (affiliate of IFI)..... (770) 998-9900

Website: www.sefa.org

Korean Cleaners Association of Atlanta(770) 998-3520

Georgia Department of Natural Resources
Environmental Protection Division
Hazardous Waste Management Branch
Generator Compliance Program
205 Butler Street, S.E., Suite 1066
Atlanta, Georgia 30334

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