

Drycleaning

Facility Compliance Assistance Brochure

www.floridadrycleaners.org





Florida Department of Environmental Protection
Hazardous Waste Compliance Assistance Program

This document was published to educate drycleaning businesses on hazardous waste management issues. The suggested options may help businesses to operate in an environmentally appropriate manner. Some of the options may go beyond what is required to remain in compliance with hazardous waste regulations. Business owners are responsible for obtaining complete information about applicable regulations. Misrepresentations or omissions by the Florida Department of Environmental Protection (FDEP) or the Florida Center for Solid and Hazardous Waste Management do not relieve any person from any requirement of federal regulations or Florida law.

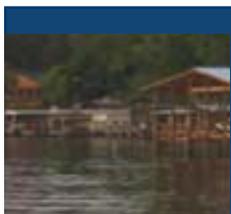
Facility Registration:

The owner, operator, and real property owner are required to jointly register all operating drycleaning and wholesale supply facilities with the FDEP. New businesses are required to register within 30 days after the start of operation. Also, the registrants are required to notify the FDEP of any revisions to the information previously submitted to the FDEP within 30 days of the change. An annual registration is required for each operating facility. Facilities that fail to pay the registration fee are subject to late fee charges. Contact FDEP for fee and date information.

Importance of Hazardous Waste Management

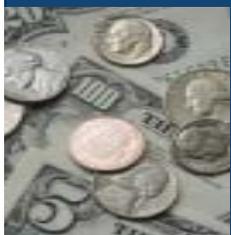
As a business owner, operator or employee, you may be responsible for materials that can harm people and the environment. This booklet offers helpful tips on how to:

- Comply with federal and state hazardous waste regulations.
- Avoid penalties by properly managing hazardous wastes.
- Save money on disposal costs by reducing hazardous wastes.
- Prevent pollution.



Health and Environment

Drycleaning solvents and solvent-containing wastes spilled or dumped on the ground may seep into and contaminate Florida's groundwater. Soil and groundwater cleanup from spills can easily cost hundreds of thousands of dollars.



Cost Savings

State and county inspectors visit your business to ensure that hazardous wastes are being managed properly. State penalties range from \$100 to \$50,000 **per violation per day**.

Reducing volumes and types of hazardous wastes can reduce your costs of production and disposal as well as reduce your risk of future liability.



Public Image

Your customers will appreciate your efforts to prevent pollution.

Your community will recognize your business as a good neighbor.

Hazardous Waste Generator Classification/Status

The rules you must follow depend on how much hazardous waste you generate.

- ◆ If you generate less than 220 pounds in any one calendar month you are a Conditionally Exempt Small Quantity Generator (CESQG). To keep your CESQG status, you cannot store more than 2,200 pounds of waste at one time. The regulations for a CESQG are much simpler/easier to comply with than for Small Quantity Generators (SQG) or Large Quantity Generators (LQG).
- ◆ If you generate 220 to 2,200 pounds in any one calendar month you are a Small Quantity Generator (SQG).
- ◆ If you generate more than 2,200 pounds in any one calendar month you are a Large Quantity Generator (LQG).

Sources of Hazardous Waste

Vapor Emissions

- ◆ Process emissions occur as a result of equipment operations, such as washing, aeration and distillation. Vapor control systems create wastes such as carbon adsorption filters.
- ◆ Fugitive emissions (perc and/or petroleum distillates) occur as a result of evaporation during clothing transfer, equipment leaks, losses during solvent transfer, and evaporation from spent filters and distillation wastes. Perc and petroleum distillates are serious air pollutants which cause photochemical smog and other pollutants.
- ◆ At night, vapors cool and sink to the floor of the facility and can penetrate through cracks and expansion joints in the concrete.



Cooked Powder Residue

- ◆ Cooked powder residue (the material generated by cooking down or distilling muck) is a hazardous waste. It is generated by drycleaning units whose RotoDisc filters use power filtration. Spent powder filtration media is called "muck." Solvent is recovered from muck in the still (muck cooker). This distillation residue from the muck cooker is called "cooked powder residue."

Sludge

- ◆ Sludge is the solid residue from the distillation process (still bottoms). In a perc drycleaning operation, sludge is a hazardous waste.

Wastewater

- ◆ Separator and condensate water containing perchloroethylene (perc) is a hazardous waste and is frequently mismanaged. Separator water contains the aqueous distillate from the still. Untreated wastewater should never be poured down any drain. Wastewater containing drycleaning solvents can leak from sewer lines and septic systems. Even the lowest levels of solvents will contaminate the environment. You must have the written permission of a POTW (publicly owned treatment works) to discharge any wastewater. It cannot be a privately owned sewage treatment plant.
- ◆ Hazardous wastewater that is treated on site must be "counted" in determining your rate of generation unless piped directly to a treatment system that effectively reduces concentrations and characteristics such that the wastewater is no longer considered a hazardous waste.
- ◆ "Press return water" or "vacuum water" contains solvent residue from the steam from pressing.
- ◆ Direct boiler blowdown to the sanitary sewer.

- ◆ Floor wash water for general cleaning may contain perc. It also may contain spilled materials and may be a hazardous waste.
- ◆ Wastewater from spotting and precleaning operations may be hazardous due to constituents in spotting agents.

Spent Filters

- ◆ Cartridge filters are commonly used to purify the solvent during the drycleaning process. Spent filters from chlorinated solvent drycleaning operations are listed hazardous wastes. Spent filters from petroleum drycleaning operations are not normally considered hazardous waste but it is recommended that all waste be tested to prove non-hazardous, or disposed as hazardous waste. In addition to the filters used in the drycleaning machine, spent filters from separator water treatment units are also hazardous wastes. Spent carbon filters and adsorption units from the air recovery systems are also hazardous wastes.



- ◆ Materials recovered from spin-disc filters are normally routed to a distillation unit where solvent is recovered from those materials for reuse. This process generates hazardous waste sludge.

Other Hazardous Wastes

- ◆ Other hazardous wastes that may be generated at a drycleaning facility include: discarded boiler chemicals; discarded paints and solvents, especially floor sealants; discarded drycleaning units, if not recycled as scrap metal. (Freon, fluorescent bulbs and mercury switches are also regulated.)
- ◆ Even when empty, containers used to store solvents and other wastes still may contain a very small amount of residual material. Even a very small amount of solvent can cause significant soil or groundwater contamination if mismanaged. Contact the Florida Department of Environmental Protection or your county's household hazardous waste service for information on safe disposal/recycling of empty containers.
- ◆ Lint from systems using perc must be treated as a hazardous waste and must be kept in its own container or added to the waste filter

drum and kept tightly closed. If a shop vac is used to remove lint from the drycleaning unit or from the work area, that lint should also be managed as a hazardous waste. Do not empty the shop vac outside the building or allow any of the lint to escape outside the container. Further, the shop vac is considered a container and is subject to all the requirements of a container.

- ◆ Items that come into contact with perc should be treated as hazardous wastes (e.g., rags, cardboard or rainwater).
- ◆ Unused, spilled, or off-spec spotting/sizing chemicals may be hazardous wastes.

Managing Hazardous Waste

Containers

- ◆ Maintain containers in good condition. Prevent leaks and ruptures.
- ◆ If a container leaks, transfer the contents to a new container.
- ◆ Wastes must be compatible with the container.
- ◆ Keep all containers labeled and tightly closed. All hazardous wastes, including lint and used filters must be stored in a tightly closed container. Do not let filters sit out to dry by evaporation. If the waste container has a retaining ring, it must be sealed using the ring.

Storage

- ◆ Maintain adequate aisle space between container rows to allow weekly inspections for leaks and damage.
- ◆ CESQGs (Conditionally Exempt Small Quantity Generators) may not store more than 2,200 pounds of waste. The storage time limits for SQGs (Small Quantity Generators) is 180 days and 90 days for LOGs (Large Quantity Generators).
- ◆ All containers of drycleaning solvents (perc, petroleum, and other)

and all liquid hazardous wastes must be kept within secondary containment.

Secondary Containment

Secondary containment

- ◆ Secondary containment is designed to capture any spills, leaks or discharges from solvent use, solvent storage, and waste storage areas. Secondary containment is not designed for primary waste or solvent storage (Section 376.3078(9)(a) and (b), Florida Statutes).
- ◆ The purpose of secondary containment is to prevent releases of drycleaning solvents to the environment and to reduce contamination of soils and groundwater. The secondary containment requirements provide for TEMPORARY containment of accidental spills or leaks until appropriate response actions are taken by the owner/operator to abate the source of the spill and to remove the product from all areas on which it has accumulated.
- ◆ Secondary containment structures should be kept clean and free of debris.



Type of secondary containment required

The type of secondary containment depends on when the facility commenced operations:

- ◆ Facilities that began operation on or after January 1, 1996, must be equipped with secondary containment vessels, not dikes. Secondary containment for these facilities must consist of rigid and impermeable containment vessels installed beneath each machine or item of equipment in which drycleaning solvents are used.
- ◆ Facilities that began operations before January 1, 1996, are required to be equipped with either secondary containment vessels or dikes. Secondary containment for these facilities must consist of rigid and

impermeable containment vessels or a dike around each machine or item of equipment in which drycleaning solvents are used.

- ◆ All facilities, regardless of when operations began, must install secondary containment around any solvent or waste solvent storage area. This includes separator water treatment systems.
- ◆ The rigid and impermeable vessels shall be constructed of metal or other material that will not leak drycleaning solvents according to manufacturer product use and limitation recommendations. All diked containment areas must be sealed or otherwise made impervious to drycleaning solvents. Sealed areas include floor surfaces, floor drains, floor joints and inner dike walls. Bare concrete or asphalt floor surfaces are not impervious to drycleaning solvents. For information about acceptable sealants for diked surfaces, please see the section on acceptable types of floor sealants.

Secondary containment capacity needs

- ◆ All machines and equipment that contain hazardous solvents and all areas where hazardous liquids are stored, must have secondary containment. Containment structures must be able to contain at least 110% of the capacity of each machine or item of equipment in each storage area. The capacity of a machine or equipment is the capacity of the largest single tank in the machine or equipment. The capacity of a solvent or waste storage secondary containment area is 110% of the volume of the largest storage container within it.



- ◆ Floor surfaces should be sealed underneath and at least two feet around all machines or equipment that have a tank capacity of ONE QUART OR LESS, if they are not within a secondary containment area. Note that the floor around the spotting boards should also be sealed.

- ◆ Containment vessels and equipment must be mounted in such a way so as not to compromise the integrity of the containment vessel. Outdoor storage areas are not recommended. If used, they must be roofed or otherwise protected from the accumulation of rainfall. In the event that rainwater accumulates in the secondary containment vessel, it shall be handled as hazardous waste.

Types of acceptable floor sealants

- ◆ In order to maintain a secondary containment dike that is impervious to drycleaning solvents, all floor surfaces, floor drains and floor joints within the diked area must be sealed with a solvent-resistant sealer and/or caulking compound (sealant). The Department does not recommend any specific floor sealers or sealants. However, the sealer and sealant must be compatible with and resistant to all solvents used at the facility for a contact period of at least 72 hours, according to manufacturer product use and limitation recommendations. The sealant must be applied and maintained in accordance with manufacturer specifications. Sealant specifications and a record of application dates must be maintained at the facility.

Spills outside of a containment area

Upon discovery of any spill of more than 1 quart of drycleaning solvent outside of a containment area, the owner or operator of any drycleaning facility or wholesale supply facility must immediately report the spill or discharge by calling the Florida State Warning Point (800) 320-0519.

- ◆ Initiate and complete actions to abate the source of the spill, remove the discharged solvents from all indoor and outdoor surfaces, remove all discharged solvents and dissolved solvents from any septic tank or catch basin in which the solvent has accumulated, and remove affected soils.

Labels

In addition to complying with the Department of Transportation requirements, the following pre-shipment labeling for hazardous waste should be used:

- ◆ Label every container with the type of waste and whether it is hazardous or non-hazardous.
- ◆ Include the accumulation start date (the date when waste was first placed in the container).
- ◆ Include EPA waste codes.
- ◆ Interim storage containers, such as the pails for temporary storage of separator water need only be marked with the words, "Hazardous Waste" , and do not require a date.

HAZARDOUS WASTE
Federal Law Prohibits Improper Disposal
If found, please contact the nearest police, public
safety authority or the US EPA
(Your business name, address and manifest document number)

Transportation and Disposal

- ◆ Make sure your transporter and disposal facility are registered with FDEP and have applicable permits. You are ultimately responsible for what they do with your waste. Your responsibility never goes away. If they cause contamination and cannot pay for the cleanup, the government will ask/require you to help pay for the cleanup.
- ◆ Use manifests for all hazardous wastes shipped off-site. Keep signed copies of the manifests on-site for at least three years.
- ◆ Never discard a possible hazardous waste or solvent-containing waste by throwing it on the ground or into a stormwater drain.
- ◆ Never discard a possible hazardous waste or solvent-containing waste by discharging it into a septic tank. Cleanups are expensive.

- ◆ Only CESQGs are allowed to transport their hazardous waste to an approved disposal facility. If you are a SQG or LQG, you are not allowed to transport your hazardous waste.

Inspections and Recordkeeping

- ◆ Inspect containers, separator water treatment systems, floor sealant areas, and product and waste areas at least once a week. (Look for moisture, rust, corrosion, etc.) Keep a written log of these inspections. The log/calendar can be viewed, downloaded and printed from www.floridadrycleaners.org. or FDEP websites.



- ◆ Inspect materials upon delivery and immediately return unacceptable materials to the supplier.
- ◆ Keep training and waste container inspection records for three years.
- ◆ Keep manifests and shipping receipts for three years.
- ◆ Keep waste analysis and testing records for three years.
- ◆ Keep land disposal restriction forms for three years from the date the waste was last shipped.
- ◆ Keep operating manuals and Material Safety Data Sheets available.
- ◆ Keep records of equipment leak inspections, monthly perc purchase amounts, the volume of water run through the vacuum treatment unit, and the changing of filters of the aforementioned devices (see www.floridadrycleaners.org for web links and for more information).

Training

- ◆ Train all employees to identify, reduce, and properly handle wastes. Training is required for SQG and LQG. LQGs must train annually.
- ◆ Train new employees before they handle hazardous wastes.
- ◆ If you have an outside cleaning/janitorial crew (especially one that comes in after hours) be sure they know how to properly dispose of water from washing the floor or cleaning your facility.
- ◆ Involve employees in designing and implementing waste reduction measures.
- ◆ Offer periodic refresher courses to renew or increase employee awareness of the importance of waste reduction. Annual refresher courses are REQUIRED for LQG's.
- ◆ Document all training. "If it's not on paper, it didn't happen".

"Hazardous Waste Reduction

- ◆ The manager must be committed to waste minimization and pass that commitment on to the employees.
- ◆ Evaluate your shop's wastes and identify areas where changes can be made.
- ◆ Train employees to use drycleaning equipment correctly and efficiently using minimal amounts of spotting chemicals.
- ◆ Know where every pipe is going and how the wastewaters are routed. Do not pipe water containing drycleaning solvent (vacuum water, separator water) to the boiler.

- ◆ Do not throw anything into a storm drain or onto the ground.
- ◆ Maintain air emission control and solvent recovery systems in good working order to reduce the loss of solvents in wastewater.
- ◆ If a floor drain is present in the work area, determine where the drain discharges. If it discharges to a storm drain or a dry well, remove, seal or disable the floor drain.
- ◆ When changing out old equipment, be aware that it needs to be properly demobilized. All wastes should be removed and properly disposed of within 180 days (or 90 days for LQG's) of removing a drycleaning unit from service.
- ◆ Wastewaters generated by cleaning the unit that is being taken out of service may also be considered hazardous waste. If the unit is being sold as scrap, the equipment and its components may be subject to regulation.



Solvents

- ◆ Purchase solvents from a supplier that uses a direct couple delivery system (also known as a closed-loop delivery system) to minimize the chance for solvent spills or solvent vapor losses during solvent delivery.
- ◆ Purchase only perc that contains stabilizers and is intended for drycleaning. Otherwise, the perc degrades, becomes acidic, and can cause failure of the drycleaning unit and separator water treatment system.
- ◆ Install secondary containment for storage tanks and containers.
- ◆ Maintain drycleaning machines and check weekly for leaks.

- ◆ Use spigots and pumps when dispensing new solvents.
- ◆ When not in use, keep spotting chemical squeeze bottles capped, closed and labeled in the metal tray on the spotting board. Replace hazardous solvents or spotting chemicals with non-hazardous products.
- ◆ Keep all waste containers tightly sealed.
- ◆ Avoid outside storage of solvents and wastes.
- ◆ Use self-closing funnels to add liquid waste to drums.
- ◆ Check the exhaust temperature weekly during the drying cycle. If it does not cool below 45 degrees Fahrenheit, the unit is wasting solvent and requires maintenance.
- ◆ Examine the separator water visually. If globules of solvent are visible, the condenser is not operating at the proper temperature and should be repaired.
- ◆ Do not use chlorinated solvent-based pre-spotters in petroleum solvent drycleaning operations.
- ◆ Do not use solvent-based pre-spotters on garments to be laundered if the facility is served by a septic tank.
- ◆ Do not pipe vacuum water or any other contact water to the boiler.



Cartridge Filters

- ◆ The United States Environmental Protection Agency (EPA) recommends draining cartridge filters in their housing before removal.

- ◆ Determine and maintain the ideal amount of clothing cleaned per cartridge before stripping cartridges.
- ◆ If using steam to strip carbon cartridge filters or perform steam stripping in the still, be sure that the back flow pressure valve is not compromised.
- ◆ Used filters must be stored inside a tightly sealed drum.

Emergency Planning

Develop a contingency plan

Guidance on contingency plans is available from FDEP. Large Quantity Generators must have a written plan that includes:

- ◆ Emergency coordinator's address and phone number.
- ◆ On-site emergency equipment descriptions and locations.
- ◆ Evacuation plan and routes, including a site diagram.
- ◆ Spill reporting procedures.

Emergency Information

Post the following information near every telephone:

- ◆ State Warning Point: 1-800-320-0519.
- ◆ Fire department - (911 is not sufficient- the actual phone number must be listed).
- ◆ Emergency coordinator's name and phone number.
- ◆ Locations of fire alarms and extinguishers.

- ◆ Locations of spill control materials.
- ◆ Emergency response arrangements with police, fire, hospitals and emergency response contractors.

Designate an emergency coordinator

This person must know what to do in case of fire, spill, or other emergency and must be on the premises or reachable 24 hours a day.

Notification of Hazardous Waste Generation

- ◆ If your business generates 220 pounds or more of hazardous waste in any one calendar month, notify FDEP (800-741-4337) to obtain an EPA identification number. Local environmental agencies also should be notified.
- ◆ SQG's and LQG's are required to notify police and fire departments and local hospitals that would respond to an emergency. They need to know that there are hazardous wastes on your property.

Common Violations for Drycleaning Establishments

This list, not in any particular order of frequency or severity, will help you prevent the most common hazardous waste violations. For more detailed information on hazardous waste management requirements, contact FDEP.

- ◆ Not storing containers within secondary containment.
- ◆ Failure to have the proper records available for inspection.
- ◆ Improper labeling of containers.
- ◆ Not performing AND documenting weekly inspections.

- ◆ Not posting the proper emergency response information.
- ◆ Not labeling the containers with an accumulation start date.
- ◆ Having open containers that allow solvents to evaporate.
- ◆ Secondary containment not provided to all containers of drycleaning solvents/wastes.
- ◆ Poorly maintained or misused separator water treatment systems.
- ◆ Failure to change filters on separator water treatment unit.
- ◆ Discharge of separator water into drains and storm water catchment basins.
- ◆ Failure to maintain sealant coatings in secondary containment areas.
- ◆ Determining generator status incorrectly by failing to count treated separator water.

Tips from inspectors

Drums

- ◆ Mystery drums are not allowed. All drums must be properly labeled. This includes the container waste accumulation start date.
- ◆ Evaporation of waste solvents is a serious violation. Do not allow the hazardous wastes to evaporate. Keep the container closed tightly at any time that waste is not being added. Keep the top of the drum clean.
- ◆ Do not store empty drums outside. If drums get stormwater inside them, the contents will have to be sampled to determine whether or not the water in the drum is hazardous. Insist that the person who

sold you the drum and its contents takes the drum back when you are done with it.

- ◆ Inspectors check dumpsters for hazardous wastes and walk the entire property line of a business looking for orphan drums and distressed/dead vegetation.

Transport

The only generators who are allowed to transport their own hazardous waste are Conditionally Exempt Small Quantity Generators (CESQGs). All other generators (SQGs and LOGs) must use a hazardous waste hauler who is registered with the FDEP and the US EPA.

Waste

- ◆ The most common violation is the failure to determine whether or not something is a hazardous waste before disposal.
- ◆ Abandoned products are a waste.
- ◆ If you throw away containers, make sure the container is completely empty before you place it in a waste receptacle.

Water

- ◆ If you discharge any waste that could be construed as a hazardous waste into a city sewer, you must have the written permission of the city sewer system. The city sewer system must be a Publicly Owned Treatment Works (POTW). It cannot be a privately owned sewage treatment plant.
- ◆ Know where your drains go. All drains that lead from a hazardous materials area to a stormwater area should be sealed.

"Where can I get more information?"

Additional information on hazardous waste reduction and regulations is available from many sources. Some are listed on the following pages.

Florida Department of Environmental Protection

District offices and the Tallahassee office offer technical assistance, fact sheets, and other publications on hazardous waste regulations.

Hazardous Waste Compliance Assistance Program

Phone: (800) 741-4DEP

(850) 245-8707

Fax: (850) 245-8810

<http://www.dep.state.fl.us/waste/categories/hwRegulation>

Drycleaning Solvent Cleanup Program

Phone: (850) 245-8927

Fax: (805) 245-8976

<http://www.dep.state.fl.us/waste/categories/drycleaning/default.htm>

Drycleaning Registration Section

Phone: 850-245-8839

Fax: 850-245-8858

E-mail: TankRegistration@dep.state.fl.us

U. S. Environmental Protection Agency

The EPA has published a series of industry-specific guidelines and handbooks on preventing pollution and complying with hazardous waste regulations. These materials are available on the web at: <http://www.epa.gov>

RCRA Hotline: (800) 424-9346



Your Trade Associations

Trade associations have published guides to help you find solutions to your hazardous waste management problems.

◆ International Fabricare Institute
(www.ifi.org)

◆ National Cleaners Association (www.nca-i.com)

Florida Small Business Assistance Program

The Small Business Assistance Program (800-722-7457) helps businesses with environmental concerns and problems related to compliance with air regulations. Assistance is confidential and staff experts have business experience. More information is available on the web page: <http://www.dep.state.fl.us/Air/programs/sbap.htm>

Offices of the Florida Department of Environmental Protection

Hazardous Waste Regulation Section

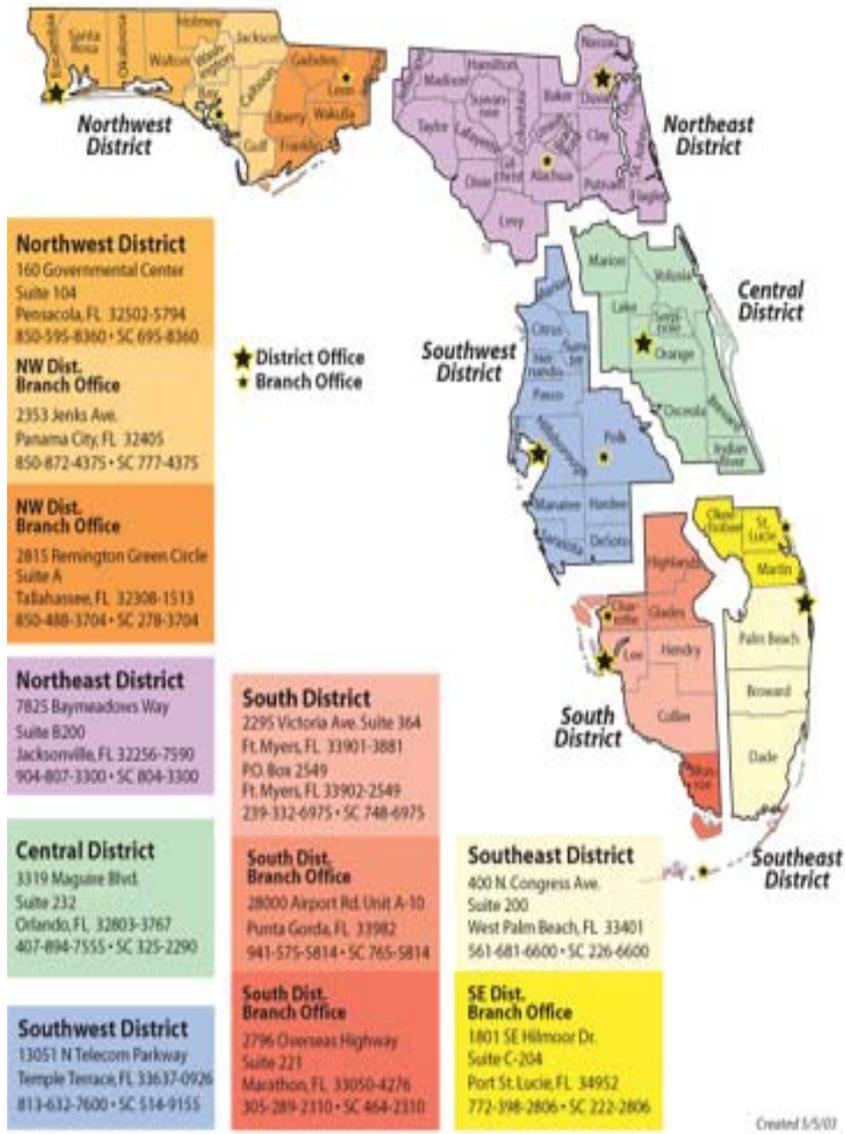
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
800-741-4DEP
<http://www.dep.state.fl.us/>

Hazardous waste regulations are available at many public libraries. In addition, the Florida Department of Environmental Protection and the United States Environmental Protection Agency have posted links to copies of these regulations on the agencies' internet sites.

These sites also provide links to agency forms, fact sheets, checklists, rule summaries, answers to frequently asked questions, and reports from our public information databases. Individuals who do not have internet access may obtain copies of department publications through the contact information listed in this document.



Florida Department of Environmental Protection District Offices



Created 5/5/03
Updated 5/16/06

Funded by: U.S. Environmental Protection Agency
through the Florida Department Environmental
Protection Compliance Assistance Program.

Written and published by: Florida Center for Solid and
Hazardous Waste Management.

For additional information contact:

Florida Department of Environmental Protection
Hazardous Waste Compliance Assistance Program
2600 Blair Stone Road
Tallahassee, FL 32399
Phone: (800) 741-4337
(850) 245-8789
www.dep.state.fl.us

University of Florida
Florida Center for Solid and
Hazardous Waste Management
2207-D N.W. 13th Street
Gainesville, FL 32609
Phone: (352) 392-6264
www.floridacenter.org

This project and the preparation of this booklet was funded in part by a Hazardous Waste Management State Program support grant (CFDA 66.801) from the U.S. Environmental protection Agency (US EPA) through a contract with the Bureau of Solid and Hazardous Waste of the Florida Department of Environmental Protection. The total cost of the project was \$30,000, of which 100 percent was provided by the US EPA.