

# R CRA INFOCUS

## DRY CLEANING



- REGULATORY REVIEW
- REDUCING WASTE AND PREVENTING POLLUTION
- RESOURCES FOR DRY CLEANERS



United States  
Environmental Protection  
Agency

Solid Waste and  
Emergency Response  
(5305W)

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**FOR MORE INFORMATION CALL:**

## RCRA Hotline

U.S. Environmental Protection Agency  
800 424-9346 or TDD 800 553-7672.

In the Washington, DC, area: 703 412-9810  
or TDD 703 412-3323.

# CONTENTS

# Contents

|  |    |
|--|----|
| Foreword   | 2  |
| Frequently Asked Questions About RCRA                        | 3  |
| The Life Cycle of a Typical Dry Cleaning Waste               | 6  |
| Requirements for Regulated Dry Cleaners                      | 8  |
| Reduce or Minimize the Hazardous Wastes You Generate         | 10 |
| Other Environmental Laws Affecting the Dry Cleaning Industry | 14 |
| Contacts and Resources                                       | 16 |

# FOREWORD

# Foreword

If you are a dry cleaner, your facility probably generates some hazardous waste. That means you must follow regulations issued by the U.S. Environmental Protection Agency (EPA) under a law called the Resource Conservation and Recovery Act (RCRA). Under RCRA, you are required to follow certain practices and procedures associated with the safe management of hazardous waste. *RCRA in Focus* provides an overview of the basic federal regulations covering wastes that are likely to be hazardous in your business. It also provides recycling and pollution prevention options to help businesses decrease the amount of hazardous waste they generate.

# FREQUENTLY ASKED QUESTIONS ABOUT RCRA

## What Is RCRA?

RCRA is a federal law that encourages environmentally sound methods for managing commercial and industrial waste as well as household and municipal waste. It regulates facilities that generate, transport, treat, store, or dispose of hazardous waste. The vast majority of dry cleaners are considered hazardous waste generators, rather than treatment, storage, and disposal facilities (TSDFs), which are subject to more rigorous regulations.

The term “RCRA” is often used interchangeably to refer to the law, the regulations, and EPA policy and guidance. The *law* describes the waste management program mandated by Congress that gave EPA authority to develop the RCRA program. EPA *regulations* carry out the Congressional intent by providing explicit, legally enforceable requirements for waste management. EPA *guidance documents* and *policy directives* clarify issues related to the implementation of the regulations.

All of the RCRA hazardous waste regulations can be found in the *Code of Federal Regulations* (CFR), Title 40, Parts 260 to 279. The CFR can be accessed at <[www.access.gpo.gov/nara](http://www.access.gpo.gov/nara)> or purchased through the U.S. Government Printing Office (GPO).

## Who Is Regulated?

Any dry cleaner that generates waste is potentially subject to RCRA hazardous waste requirements. You must conduct tests required by the regulations or use your knowledge of and familiarity with the waste you generate to determine whether it is hazardous waste (as opposed to other types of waste). You might be subject to substantial civil and criminal penalties if you fail to properly or completely identify hazardous waste generated by your business.

## What Is Hazardous Waste?

To be considered hazardous waste, a material first must be classified as a solid waste. EPA defines solid waste as garbage, refuse, sludge, or other discarded material (including solids, semisolids, liquids, and contained gaseous materials). If your waste is considered solid waste, you must then determine if it is hazardous waste. Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes (listed wastes) or if they exhibit one of four characteristics (characteristic wastes). Each type of RCRA hazardous waste is given a unique hazardous waste code using the letters D, F, K, P, or U and three digits (e.g., D001, F005, P039). See pages 10 to 13 for additional information on dry cleaning waste codes.

*Listed Wastes.* Wastes are listed as hazardous because they are known to be harmful to human health and the environment when not managed properly, regardless of their concentrations. The lists include the following three types of waste:

- **Non-Specific Source Wastes.** These are material-specific wastes, such as solvents, generated by several different industries. Waste codes range from F001 to F039. Examples include perchloroethylene (perc), trichlorethane (TCA), and chlorofluorocarbons (CFC-113).
- **Specific Source Wastes.** These are wastes from specifically identified industries. Waste codes range from K001 to K161. Dry cleaning facilities typically do not generate specific source wastes.
- **Discarded Commercial Chemical Products.** Off-specification products, container residuals, spill residue runoff, or active ingredients that have spilled or are unused and that have been, or are intended to be, discarded. Waste codes range from P001 to P205 and U001 to U411. An example is unused perc (U210) from dry cleaning facilities.

## STATE REQUIREMENTS

**Y**ou may be regulated both by your state hazardous waste agency and EPA. RCRA allows states to receive legal permission, known as authorization, to implement the RCRA hazardous waste program. You must always contact your state authority to determine which state requirements apply to your business.

To operate a hazardous waste program, a state’s regulations must be consistent with, and at least as stringent as, the federal program. Some states adopt more stringent requirements for facilities handling hazardous waste, which are considered part of the authorized program.

## MORE QUESTIONS?

**C**all the RCRA Hotline at 800 424-9346 or TDD 800 553-7672 for additional information about RCRA rules and regulations. In the Washington, DC, area, call 703 412-9810 or TDD 703 412-3323.

# Frequently Asked

## AM I REGULATED BY RCRA OR SUPERFUND?

**R**CRA regulates the treatment, storage, and disposal of hazardous waste being generated now and in the future. Superfund was created to pay for the identification, inspection, investigation, ranking, and cleanup of abandoned or uncontrolled hazardous waste sites that people responsible for contamination are unable or unwilling to clean up. Call the RCRA Hotline for more information.

## HOW IS USED OIL HANDLED?

**R**CRA contains special provisions for the management of used oil destined for recycling or reuse. These management standards apply to oil refined from crude oil or any synthetic oil that has become contaminated through use by chemical or physical impurities. Used oil that will be recycled or reused is subject to special management standards, rather than the hazardous waste standards, unless it is treated as a waste (i.e., you decide to send the used oil for treatment and disposal rather than recovery or recycling).

*Characteristic Wastes.* Even if your waste does not appear on one of the hazardous waste lists, it still might be regulated as hazardous waste if it exhibits one or more of the following characteristics:

- **Ignitability.** Ignitable wastes create fires under certain conditions or are spontaneously combustible, and have a flash point less than 60 °C (140 °F). Examples are TCA and CFC-113, spent filter cartridges, and distillation residues from perc recovery and treatment, as well as Stoddard's solvent. The waste code for these materials is D001. Petroleum dry cleaners using higher flash point solvents might be exempt from regulation.
- **Corrosivity.** Corrosive wastes are acids or bases that are capable of corroding metal containers, such as storage tanks, drums, and barrels. Battery acid is a good example. The waste code for these materials is D002.
- **Reactivity.** Reactive wastes are unstable under "normal" conditions. They can cause explosions, toxic fumes, gases, or vapors when mixed with water. Examples include lithium-sulfur batteries and explosives. The waste code for these materials is D003.
- **Toxicity.** Toxic wastes are harmful or fatal when ingested or absorbed. When toxic wastes are disposed of on land, contaminated liquid may drain (leach) from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP). The waste codes for these materials range from D004 to D043.

## How Are Generators Regulated?

If your dry cleaning business generates hazardous waste, you must manage it according to regulations for your specific generator type. Hazardous waste generators are divided into three categories, according to how much they generate in a calendar month:

- **Large Quantity Generators (LQGs).** LQGs generate greater than or equal to 1,000 kg (approximately 2,200 lbs) of hazardous waste per month, or greater than 1 kg (approximately 2.2 lbs) of acutely hazardous waste per month.
- **Small Quantity Generators (SQGs).** SQGs generate greater than 100 kg (approximately 220 lbs) but less than 1,000 kg of hazardous waste per month.
- **Conditionally Exempt Small Quantity Generators (CESQGs).** CESQGs generate less than or equal to 100 kg of hazardous waste per month, and less than or equal to 1 kg of acutely hazardous waste per month.

Some states do not recognize the CESQG class. Contact your state environmental agency to find out if the CESQG status is recognized. **To find your appropriate state contact, call the RCRA Hotline at 800 424-9346.**

Under the federal RCRA requirements, your generator status might change from one month to the next as the quantity of waste you generate changes. You must comply with whichever standard is applicable for a given month. In many cases, small businesses that fall into different generator categories at different times choose to always satisfy the more stringent requirements (usually state requirements) to simplify compliance. Generators must "count" the amount of waste generated in a calendar month, which involves adding up the total weight of all quantities of characteristic and listed waste generated at a particular facility. Certain wastes, such as those that are reclaimed or recycled continuously on site, are not counted under the federal regulations.

# Questions

## Do Exclusions Exist?

The RCRA regulations contain many exclusions for wastes and waste management practices that are not considered to be hazardous. Several exclusions and exemptions pertain specifically to the dry cleaning industry. Some states, however, do not recognize the federal exclusions.

As part of your solvent recovery operations, you probably generate wastewaters containing trace amounts of solvent. Most dry cleaners discharge this wastewater to a publicly owned treatment works (POTWs) and, therefore, it is not considered a hazardous waste. The following table provides a brief description of exclusions and exemptions potentially applicable to the dry cleaning industry. Check with your implementing agency (state or EPA) for information about additional requirements or special conditions to the exclusions and exemptions.

|  |   |
|--|---|
| <b>Domestic Sewage Exclusion</b>           | Mixtures of domestic sewage and other wastes that pass through a sewer system to a POTW for treatment are excluded from the definition of solid waste. Generators are encouraged to contact their local POTW to find out what regulations might apply.  |
| <b>Wastewater Treatment Unit Exemption</b> | A tank system used to store or treat wastewater as part of an onsite wastewater treatment facility with a National Pollutant Discharge Elimination System (NPDES) permit or subject to pretreatment standards is exempt from the RCRA regulations.  |
| <b>Closed Loop Recycling Exclusion</b>     | Spent solvents reclaimed and returned to the drycleaning process for reuse are excluded as long as only tank storage and the entire process is enclosed (e.g. hard piped). Controlled flame combustion cannot be used, and the spent solvents cannot accumulate more than 12 months before being reclaimed. |

## HOW ARE UNDERGROUND STORAGE TANKS REGULATED?

If dry cleaning facilities store their perchloroethylene (perc) in underground storage tanks (USTs), they are subject to the UST regulations under RCRA. Among the regulatory requirements for USTs are corrosion protection, equipment for preventing spills and overfills, and implementation of a leak detection program that provides monitoring for leaks at least once every 30 days. Dry cleaners subject to UST regulations should contact the RCRA Hotline or their state environmental agency for further guidance.

# THE LIFE CYCLE OF A TYPICAL DRY CLEANING WASTE

**Y**ou've got a large vat of used perc. You produce less than 100 kg of hazardous waste per month, and you recover it on site. This example details one typical dry cleaning waste life cycle and illustrates the most common scenario of activities you would conduct as an environmental manager. A CESQG recovering used perc on site is only one possible waste life cycle at a facility. Other waste life cycles could be different depending on the waste, the type of waste management units used, and the amount of waste generated.

## **6** SEND WASTE OFF SITE FOR TREATMENT, STORAGE, OR DISPOSAL

Ensure that your hazardous waste is delivered to one of seven types of facilities to which CESQGs may send wastes (e.g. hazardous waste TSDFs, certain state licensed or permitted municipal solid waste facilities, and recyclers). You may also treat or dispose of your hazardous waste on site provided your facility meets the same criteria for offsite facilities.

## **5** FOLLOW U.S. DEPARTMENT OF TRANSPORTATION (DOT) PACKAGING STANDARDS

Before shipping waste off site for treatment, storage, or disposal, package, label, and mark waste containers in accordance with all applicable DOT requirements. For more information, call the DOT Hotline at 800 467-4922.



# 1

## **IDENTIFY WASTE**

By running tests or using knowledge of the waste, identify whether your dry cleaning waste is hazardous. Based on these analyses, you determine that the appropriate RCRA hazardous waste codes for the perc generated by your dry cleaning process are F002 and D039.

# 2

## **COUNT WASTE**

As a second step, determine how much hazardous waste you have produced in a calendar month. You do not need to count wastes that are never stored or accumulated and that are: (1) discharged directly to a sewer where the waste mixes with domestic sewage, and then passes to a POTW; or (2) recycled directly in an onsite process.

# 3

## **DETERMINE GENERATOR STATUS**

Based on the waste counting, determine your generator status. In this example, you have produced less than 100 kg in the past month, which means you are a CESQG in this calendar month. If the amount of waste you generate fluctuates from month to month, you may wish to satisfy the more stringent requirements each month to simplify compliance.

# 4

## **RECOVER SPENT PERCHLOROETHYLENE**

Filter the used perc and return part of the filtered perc to the charged perc tank for reuse. Place the filter cake and collected solids (muck) in a muck cooker to recover additional perc. Vapors from the muck cooker are vented to a condenser to recover more perc. Distill the remaining perc to remove oils, fats, and greases and return it to the charged solvent tank. Vent the distillation column to recover even more perc. (Check for Clean Air Act requirements.) Distillation residues accumulated on site are sent off site for disposal. CESQGs may accumulate up to 1,000 kg of non-acutely hazardous waste for an indefinite amount of time.

# REQUIREMENTS FOR REGULATED DRY CLEANERS

The following table presents an overview of the federal RCRA regulatory requirements for dry cleaners that are either LQGs, SQGs, or CESQGs. As noted, your state might have different or more stringent requirements.

## RCRA REGULATORY REQUIREMENTS

| REGULATORY REQUIREMENT                                     | LQGS | SQGS | CESQGS | IMPLEMENTATION EXPLANATION  |
|--|------|------|--------|---|
| <b>EPA Identification Number</b>                           | ✓    | ✓    |        | <ul style="list-style-type: none"> <li>Obtain an EPA identification number for each facility within your company. EPA and states use this 12-character identification number to track hazardous waste activities.</li> <li>Obtain an EPA identification number by submitting form 8700-12 (Notification of Regulated Waste Activity), which is provided by your state hazardous waste agency. This is a one-time notification. Contact your state regarding the need for renotification if circumstances at your facility change.</li> </ul>  |
| <b>Hazardous Waste Identification</b>                      | ✓    | ✓    | ✓      | <ul style="list-style-type: none"> <li>Identify whether you generate hazardous waste to determine if you are subject to the RCRA hazardous waste regulations. Test procedures are described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, SW-846" or tests can be performed by a local laboratory.</li> </ul>  |
| <b>Used Oil Standards</b>                                  | ✓    | ✓    | ✓      | <ul style="list-style-type: none"> <li>If you generate used oil, you are subject to a separate set of management standards from the hazardous waste management standards, if the used oil will be recycled. If the used oil is to be treated and disposed of, perform the hazardous waste identification step listed above.</li> </ul>  |
| <b>Waste Counting</b>                                      | ✓    | ✓    | ✓      | <ul style="list-style-type: none"> <li>Determine how much hazardous waste you generate to determine your generator status.</li> </ul>   |
| <b>Accumulation Area</b>                                   | ✓    | ✓    |        | <ul style="list-style-type: none"> <li>You can accumulate waste in a "satellite accumulation area" with minimal regulatory burden. This area must be at or near the point of generation and under the control of the operator of the process generating the waste.</li> <li>There is no time limit on accumulation in the satellite accumulation area for waste under 55 gallons.</li> <li>There is a 55-gallon accumulation limit in the satellite accumulation area. Excess waste beyond the 55-gallon limit must be moved from the satellite accumulation area within 3 days.</li> <li>You must accumulate the waste in containers.</li> <li>Waste containers must be marked with the words "Hazardous Waste" or other words that identify their contents.</li> <li>This waste is exempt from other accumulation provisions while in the satellite accumulation area.</li> </ul>   |
| <b>Other Accumulation Areas (Time and Quantity Limits)</b> | ✓    | ✓    | ✓      | <ul style="list-style-type: none"> <li>If waste accumulation does not meet the requirements for satellite accumulation, it is subject to more stringent requirements. LQGs can accumulate waste on site for up to 90 days without a permit. SQGs can accumulate waste for 180 days, or 270 days if the SQG must transport the waste more than 200 miles to a destination facility.</li> <li>Begin counting accumulation time when waste is first generated or removed from satellite accumulation area.</li> <li>Waste must be put in an exempt unit, recycled, or sent off site within the proper time period stated above.</li> <li>If an LQG or SQG accumulates wastes beyond the allotted time period, the facility is fully subject to the requirements of a hazardous waste storage facility unless granted an exemption. SQGs cannot accumulate more than 6,000 kg of hazardous waste at any time.</li> <li>CESQGs cannot accumulate more than 1,000 kg of hazardous waste, more than 1 kg of acutely hazardous waste, or 100 kg of spill residue from acutely hazardous waste at any time.</li> </ul> |
| <b>Storage Unit Requirements</b>                           | ✓    | ✓    |        | <ul style="list-style-type: none"> <li>Accumulate waste only in units that are in good condition, remain closed except when adding or removing waste, are inspected at least weekly, are compatible with the types of waste, and meet special standards for ignitable waste and incompatible waste.</li> <li>LQGs can use accumulation tanks and containers that have been assessed for integrity, have a secondary containment system, and are inspected each operating day. SQGs can use certain accumulation tanks and containers.</li> <li>LQGs can use containment buildings as well.</li> <li>For all units, the date that the accumulation period begins must be clearly marked and visible on each container. All containers and tanks must be clearly marked or labeled with the words "Hazardous Waste" and accumulation units must be shut down and closed permanently in accordance with standards at the end of the unit life.</li> <li>LQGs and SQGs can treat their waste without a RCRA storage permit in accumulation units that meet standards.</li> </ul>                                  |
| <b>Air Emissions</b>                                       | ✓    |      |        | <ul style="list-style-type: none"> <li>LQGs must comply with organic air emissions requirements.</li> </ul>   |
| <b>Preparedness and Prevention</b>                         | ✓    | ✓    |        | <ul style="list-style-type: none"> <li>LQGs and SQGs must comply with preparedness and prevention requirements, including the following:                             <ul style="list-style-type: none"> <li>An adequate internal alarm or communications system.</li> <li>A device capable of summoning emergency personnel.</li> <li>Portable fire-control equipment.</li> </ul> </li> </ul>   |

|  |   |   |   |  |
|--|---|---|---|--|
|  |   |   |   | <ul style="list-style-type: none"> <li>- Portable fire control equipment.</li> <li>- Adequate water pressure to operate fire control systems.</li> <li>- Adequate testing and maintenance of all emergency systems.</li> <li>- Access to communication or alarm systems during waste handling activities.</li> <li>- Adequate aisle space for emergency response.</li> <li>- An arrangement with local emergency response authorities.</li> </ul>  |
| <b>Contingency Plan</b>                        | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• LQG facilities must prepare a facility contingency plan in accordance with regulations.</li> <li>• The contingency plan must be designed to minimize hazards from fires, explosions, or any unplanned release of hazardous waste or constituents.</li> <li>• A copy of the contingency plan must be kept on site and an additional copy must be submitted to all local emergency services providers.</li> <li>• LQGs and SQGs must have an emergency coordinator on site or on call at all times to respond to emergencies.</li> <li>• Emergency response information must be posted next to the telephone.</li> <li>• In the event of a fire, explosion, or release that could threaten human health outside the facility, or when a spill has reached surface water, the emergency coordinator must notify the National Response Center at 800 424-8802.</li> </ul>         |
| <b>Personnel Training</b>                      | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• LQGs must have a personnel training program in accordance with regulatory standards. <ul style="list-style-type: none"> <li>- Training must instruct facility personnel about hazardous waste management procedures and emergency response.</li> <li>- Training must be completed within 6 months from the applicability of requirements.</li> <li>- The facility must undertake an annual review of initial training.</li> </ul> </li> <li>• SQGs must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities.</li> </ul>  |
| <b>DOT Packaging</b>                           | ✓ | ✓ | ✓ | <ul style="list-style-type: none"> <li>• Before being transported, waste must be packaged, labeled, and marked in accordance with applicable DOT requirements. Call the DOT hazardous materials information line at 202 366-4488 for information.</li> </ul>   |
| <b>Offsite Management of Waste</b>             | ✓ | ✓ | ✓ | <ul style="list-style-type: none"> <li>• Hazardous waste sent off site for handling may only be sent to a hazardous waste TSDF or recycling facility unless otherwise exempt. CESQGs: See onsite management of waste below.</li> </ul>   |
| <b>Onsite Management of Waste</b>              |   |   | ✓ | <ul style="list-style-type: none"> <li>• CESQGs may either treat waste on site, if the generator qualifies as one of the following types of facilities, or ensure delivery of waste to one of the following types of facilities: permitted RCRA TSDF; interim status TSDF; state-authorized to handle hazardous waste; permitted, licensed, or registered by state to handle municipal solid waste according to standards; permitted, licensed, or registered by state to handle nonmunicipal waste; if managed after January 12, 1998, facility is permitted, licensed, or registered by state to handle nonhazardous waste in accordance with standards; facility beneficially uses, reuses, or legitimately recycles or reclaims its waste; facility treats its waste prior to beneficial use, reuse, or legitimate recycling or reclamation; or a universal waste handler in accordance with standards.</li> </ul> |
| <b>Manifest</b>                                | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• Hazardous waste sent off site must be accompanied by a manifest, a multipage form that documents the waste's progress through treatment, storage, and disposal. It can be obtained from your state agency.</li> <li>• The manifest must have enough copies to provide the generator, each transporter, and the destination facility with one copy for their records and a second copy to be returned to the generator after completion by the destination facility operator.</li> <li>• SQGs that have a contractual agreement with a waste reclaimer that specifies the types and frequencies of shipments do not need to manifest the wastes if they retain a copy of the agreement in their files.</li> </ul>  |
| <b>Land Disposal Restrictions Notification</b> | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• Waste must meet certain treatment standards under the LDR program. Waste must be treated to reduce the hazardous constituents to levels set by EPA or the waste must be treated using a specified technology. All waste sent off site for treatment, storage, and disposal must be accompanied by appropriate LDR program notifications and certifications. There are no required forms, but these papers must indicate whether or not wastes meet treatment standards or whether the waste is excluded from the definition of hazardous or solid waste, or is otherwise exempt.</li> </ul>   |
| <b>Hazardous Waste Minimization</b>            | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• To encourage generators to produce less hazardous waste, LQGs are required to have a program in place to reduce the volume and toxicity of waste generated to the degree economically practicable, and must select a currently available treatment, storage, or disposal method that minimizes present and future threats.</li> <li>• LQGs and SQGs must sign a certification of hazardous waste minimization on the manifest.</li> <li>• SQGs must make a good faith effort to minimize waste generation and to select the best available waste management method that they can afford.</li> </ul>   |
| <b>Biennial Report</b>                         | ✓ |   |   | <ul style="list-style-type: none"> <li>• LQGs must submit biennial reports of waste generation and management activity by March 1 of every even-numbered year. EPA, other agencies, and the public use this information to track trends in hazardous waste management.</li> </ul>  |
| <b>Recordkeeping</b>                           | ✓ | ✓ |   | <ul style="list-style-type: none"> <li>• LQGs must maintain personnel training records until the facility closes.</li> <li>• LQGs must keep copies of each biennial report for 3 years.</li> <li>• LQGs and SQGs must keep a copy of each manifest for 3 years.</li> <li>• LQGs and SQGs must keep records of test results, waste analyses, and other hazardous waste determinations for 3 years.</li> </ul>   |

# REDUCE OR MINIMIZE THE HAZARDOUS WASTES YOU GENERATE

The following examples show hazardous wastes typically generated by the dry cleaning industry and provide suggestions for how to recycle, treat, or dispose of them according to federal regulations.

Recycling and pollution prevention measures can significantly reduce your regulatory burden and might save your business considerable money. This section presents information on hazardous wastes typically generated by dry cleaning facilities and provides suggestions for how to recycle them or implement pollution prevention activities. Three types of dry cleaning facilities are presented: perc plants, nonperc chlorinated solvent plants, and petroleum solvent plants. The following examples show hazardous wastes typically generated by the dry cleaning industry and provide suggestions for how to recycle, treat or dispose of them.

Only the federal hazardous waste codes are provided here. Your state might have different codes for some waste streams. You should check with your state hazardous waste authority for additional waste codes and requirements.

## TYPE OF DRY CLEANING FACILITY

### Perc Plants (Chemicals Used: Perchloroethylene, also known as tetrachloroethylene)

#### Wastes Generated

#### Spent Solvents

#### Possible RCRA Waste Codes

F002 and D039.

#### Potential Recycling, Treatment, and Disposal Methods

- Directly reuse spent solvent without prior reclamation.
- Distill spent solvent to recover pure solvent.
- Ship spent solvent to a hazardous waste TSD for recovery, treatment, and/or disposal.

#### Wastes Generated

#### Spent Filter Cartridges

#### Possible RCRA Waste Codes

F002 and D039.

#### Potential Recycling, Treatment, and Disposal Methods

- Drain filter cartridges well.
- Return recovered solvent to charged solvent tanks or distillation units.
- Store spent filter cartridges and filter cakes (muck) in closed containers.
- Ship spent filter cartridges and muck to a hazardous waste TSD for treatment and/or disposal.

#### Potential Pollution Prevention Methods

- Install filter recovery units.
- Install muck cooker to recover additional solvent.
- Replace cartridge filters with spin disk filters to reduce fugitive emissions.

|   |   |
|---|---|
| <b>Wastes Generated</b>                                     | <b>Distillation Residues</b>  |
| <b>Possible RCRA Waste Codes</b>                            | F002 and D039.  |
| <b>Potential Recycling, Treatment, and Disposal Methods</b> | <ul style="list-style-type: none"> <li>■ Distill filtered solvent to remove oils, fats, greases, etc.</li> <li>■ Accumulate and store distillation residues in closed containers.</li> <li>■ Ship distillation residues to a hazardous waste TSDF for treatment and/or disposal.</li> </ul> |
| <b>Potential Pollution Prevention Methods</b>               | <ul style="list-style-type: none"> <li>■ Vent still condenser offgases to a carbon adsorption unit for additional solvent recovery.</li> <li>■ Regenerate carbon adsorber with hot air stripping rather than steam stripping.</li> </ul>  |
| <b>Wastes Generated</b>                                     | <b>Cooked Powder Residues</b>   |
| <b>Possible RCRA Waste Codes</b>                            | F002 and D039.  |
| <b>Potential Recycling, Treatment, and Disposal Methods</b> | <ul style="list-style-type: none"> <li>■ Heat muck to recover additional solvent.</li> <li>■ Accumulate and store muck cooker residues in closed containers.</li> <li>■ Ship muck cooker residues to a registered hazardous waste TSDF for treatment and/or disposal.</li> </ul>            |
| <b>Potential Pollution Prevention Methods</b>               | <ul style="list-style-type: none"> <li>■ Vent muck cooker condenser offgases to a carbon adsorption unit for additional solvent recovery.</li> <li>■ Regenerate carbon adsorber with hot air stripping rather than steam stripping.</li> </ul>  |
| <b>Wastes Generated</b>                                     | <b>Unused Perc</b>  |
| <b>Possible RCRA Waste Codes</b>                            | D039 and U210.  |
| <b>Potential Recycling, Treatment, and Disposal Methods</b> | <ul style="list-style-type: none"> <li>■ Use, reuse, or reclaim unused perc to avoid disposal.</li> <li>■ Send unused perc to a hazardous waste TSDF for treatment and/or disposal.</li> </ul>  |
| <b>Potential Pollution Prevention Methods</b>               | <ul style="list-style-type: none"> <li>■ Find a legitimate use for the unused perc.</li> <li>■ Return unused perc to the distributor.</li> </ul>  |

# Reduce or Minimize

## TYPE OF DRY CLEANING FACILITY

**Non-Perc Chlorinated Solvent Plants** (Chemicals Used: Trichloroethane (TCA) and chlorofluorocarbons (CFC-113))

### Wastes Generated

#### Spent Solvents

### Possible RCRA Waste Codes

F002, F005, and D001.

### Potential Recycling, Treatment, and Disposal Methods

- Directly reuse spent solvent without prior reclamation.
- Distill spent solvent to recover pure solvent.
- Ship spent solvent to a hazardous TSDF for recovery, treatment, and/or disposal.

### Wastes Generated

#### Spent Filter Cartridges

### Possible RCRA Waste Codes

F002, F005, and D001.

### Potential Recycling, Treatment, and Disposal Methods

- Drain filter cartridges well.
- Return recovered solvent to charged solvent tanks or distillation units.
- Store spent filter cartridges and filter cakes (muck) in closed containers.
- Ship spent filter cartridges and muck to a hazardous waste TSDF for treatment and/or disposal.

### Potential Pollution Prevention Methods

- Install filter recovery units.
- Replace cartridge filters with spin disk filters to reduce fugitive emissions.

# Wastes

|   |   |
|---|---|
| <b>Wastes Generated</b>                                     | <b>Distillation Residues</b>  |
| <b>Possible RCRA Waste Codes</b>                            | F002, F005, and D001.   |
| <b>Potential Recycling, Treatment, and Disposal Methods</b> | <ul style="list-style-type: none"> <li>■ Distill filtered solvent to remove oils, fats, greases, etc.</li> <li>■ Accumulate and store distillation residues in closed containers.</li> <li>■ Ship distillation residues to a hazardous waste TSDf for treatment and/or disposal.</li> </ul> |
| <b>Potential Pollution Prevention Methods</b>               | <ul style="list-style-type: none"> <li>■ Vent still condenser offgases to unvented refrigeration systems for additional solvent recovery.</li> </ul>  |
| <b>TYPE OF DRY CLEANING FACILITY</b>                        | <b>Petroleum Solvent Plants</b> (Chemicals Used: Stoddard's Solvent)  |
| <b>Wastes Generated</b>                                     | <b>Spent Solvent</b>  |
| <b>Possible RCRA Waste Codes</b>                            | D001.   |
| <b>Potential Recycling, Treatment, and Disposal Methods</b> | <ul style="list-style-type: none"> <li>■ Ship spent solvent to a hazardous waste TSDf for recovery, treatment, and/or disposal.</li> </ul>  |
| <b>Potential Pollution Prevention Methods</b>               | <ul style="list-style-type: none"> <li>■ Use alternative petroleum solvents with a higher flash point or lower volatile organic compounds (VOC) content.</li> </ul>   |

# OTHER ENVIRONMENTAL LAWS AFFECTING THE DRY CLEANING INDUSTRY

## CFR GUIDE TO HAZARDOUS WASTE REGULATIONS

To review the RCRA regulations referred to in this document, consult the following citations in 40 CFR:

Part 260—Hazardous waste management system: general.

Part 261—Identification and listing of hazardous waste.

Part 262—Standards applicable to generators of hazardous waste.

Part 263—Standards applicable to transporters of hazardous waste.

Part 264—Standards for owners and operators of hazardous waste and specific types of hazardous waste management facilities.

Part 265—Interim status standards for owners and operators of TSDFs.

Part 266—Standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities.

*continued*

## THE CLEAN WATER ACT

The Water Pollution Control Act, commonly known as the Clean Water Act (CWA), is the federal program designed to restore and maintain the integrity of the nation's surface waters. CWA controls direct discharges to surface waters (e.g., through a pipe) from industrial processes or stormwater systems associated with an industrial activity. It also regulates indirect discharges, or discharges to POTWs, through a public sewer system, by requiring industrial facilities to pretreat their waste before discharging to a public sewer. Industrial pollutants from the dry cleaning industry that might be regulated by CWA include perc, trichloroethane, and CFC-113. A CWA provision that typically applies to dry cleaners is the NPDES, which controls direct discharges to surface waters, and the POTW pretreatment program.

### CWA Resources:

- 40 CFR Parts 100 to 129 and 400 to 503
- Internet access: <[www.epa.gov/OW/](http://www.epa.gov/OW/)>
- EPA Office of Water: 202 260-5700
- Your state water authority, regional EPA office, and local POTW

## THE CLEAN AIR ACT

The Clean Air Act (CAA) regulates air pollution. It includes national emission standards for new stationary sources within particular industrial categories. It also includes national emission standards for hazardous air pollutants, which are designed to control the emissions of particular hazardous air pollutants (HAPs). Perc is a HAP. All dry cleaners who use perc in both transfer and dry-to-dry machines, are required, regardless of size, to undertake a number of pollution prevention steps, including inspecting dry cleaning equipment, keeping a log of leak detection and repairs, following good housekeeping practices, and operating equipment according to manufacturers instructions. You must also keep a log of the amount of perc purchased for the past 12 months.

### CAA Resources:

- 40 CFR Parts 50 to 99
- Control Technology Center, Office of Air Quality, Planning and Standards, EPA, general information: 919 541-0800; publications: 919 541-2777
- Internet access: <[www.epa.gov/ttn/catc](http://www.epa.gov/ttn/catc)>

## COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA OR SUPERFUND)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that might endanger public health, welfare, or the environment, that might come from any source. Superfund also grants EPA the authority to force parties responsible for environmental contamination to clean it up or to reimburse response costs incurred by EPA. The most important part of this act applicable to dry cleaners is the hazardous substance release reporting requirement. The person in charge at your business must report to the National Response Center (phone: 800 424-8802) any release of a hazardous substance that exceeds a designated "reportable quantity" for that substance within a 24-hour period. Also, if you are responsible for contamination caused by perc-containing wastewater leaking through sewer pipes, you might be held liable under CERCLA.

### Superfund Resource:

- Internet access: <[www.epa.gov/superfund](http://www.epa.gov/superfund)>



# Laws Affecting Dry Cleaning

## THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

The Superfund Amendments and Reauthorization Act (SARA) of 1986 created the Emergency Planning and Community Right-to-Know Act (EPCRA). This law was designed to improve community access to information about potential chemical hazards and to facilitate the development of chemical emergency response plans by state and local governments. The EPCRA regulations establish several types of reporting obligations for facilities that store or manage specified chemicals. The solvents typically used by dry cleaners (i.e., perc, trichloroethane, CFC-113, and Stoddard's solvent) are not extremely hazardous substances. A release of perc into the environment exceeding 100 pounds within a 24-hour period, however, would require emergency response notification. Also, many of the chemicals used by dry cleaners may be considered hazardous chemicals as defined by the Occupational Safety and Health Act (OSHA). Contact your local OSHA office if you have questions about whether the chemicals used in your dry cleaning business are considered hazardous under OSHA.

### EPCRA Resources:

- 40 CFR Parts 350 to 372
- The State Emergency Response Commission (contact available from RCRA Hotline)
- Internet access: <[www.epa.gov/opptintr/tri/index.htm](http://www.epa.gov/opptintr/tri/index.htm)> and <[www.epa.gov/swercepp/](http://www.epa.gov/swercepp/)>

## SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants present in drinking water. Under the authority of SDWA, EPA developed national drinking water standards and created a joint federal-state system to ensure compliance with these standards. EPA also regulates underground injection of liquid wastes under the SDWA to protect underground sources of drinking water.

### SDWA Resources:

- 40 CFR Parts 141 to 148
- SDWA Hotline: 800 426-4791
- Internet access: <[www.epa.gov/ogwdw](http://www.epa.gov/ogwdw)>

## TOXIC SUBSTANCES CONTROL ACT

The Toxic Substances Control Act (TSCA) allows EPA to collect data on chemicals to evaluate, assess, mitigate, and control risks that might be posed by their manufacture, processing, and use. Dry cleaning facilities might be affected by some of the TSCA requirements.

### TSCA Resources:

- 40 CFR Parts 702 to 799
- TSCA Hotline: 202 554-1404
- Internet access: <[www.epa.gov/internet/oppts/](http://www.epa.gov/internet/oppts/)>

## CFR GUIDE

### continued

Part 268—Land disposal restrictions.

Part 270—EPA administered permit programs: the Hazardous Waste Permit Program.

Part 271—Requirements for authorization of state hazardous waste programs.

Part 272—Approved state hazardous waste management programs.

Part 273—Standards for universal waste management.

Part 279—Standards for the management of used oil.

See the regulations at <[www.access.gpo.gov/nara](http://www.access.gpo.gov/nara)>.

## FOR MORE INFORMATION

**F**or additional information on any of these laws, contact the RCRA Hotline at 800 424-9346 or 703 412-9810 in the Washington, DC, area. TDD (hearing impaired): 800 553-7672 or 703 412-3323 in the Washington, DC, area.

# CONTACTS AND RESOURCES

## Contacts

### HOTLINES AND INFORMATION CENTERS

#### RCRA Hotline

U.S. Environmental Protection Agency  
Phone: 800 424-9346  
or TDD 800 553-7672  
In the Washington, DC, area:  
703 412-9810, or TDD 703 412-3323  
Home page: <[www.epa.gov/epaoswer/hotline](http://www.epa.gov/epaoswer/hotline)>

Answers questions on matters related to RCRA solid waste, hazardous waste, and underground storage tanks, EPCRA, and CERCLA.

#### RCRA Information Center

U.S. Environmental Protection Agency  
RCRA Information Center (5305W)  
401 M Street, SW.  
Washington, DC 20460  
Phone: 703 603-9230  
Fax: 703 603-9234  
E-mail: [rcra-docket@epa.gov](mailto:rcra-docket@epa.gov)

Holds and provides public access to all regulatory materials on RCRA and distributes technical and nontechnical information on RCRA issues.

#### Small Business Ombudsman Clearinghouse/Hotline

U.S. Environmental Protection Agency  
Small Business Ombudsman (2131)  
401 M Street, SW.  
Washington, DC 20460  
Phone: 800 368-5888  
Fax: 202 401-2302  
Home page: <[www.smallbiz-enviroweb.org](http://www.smallbiz-enviroweb.org)>

Helps private citizens, small businesses, and smaller communities with questions on all program aspects within EPA.

#### EPA Headquarters Library

U.S. Environmental Protection Agency  
Headquarters Library  
401 M Street, SW., Room 2904  
Washington, DC 20460  
Phone: 202 260-5921 or 5922  
Fax: 202 260-6257

E-mail: [library-HQ@epa.gov](mailto:library-HQ@epa.gov)  
Home page: <[www.epa.gov/natlbra/liblists.html](http://www.epa.gov/natlbra/liblists.html)>

Maintains environmental reference materials for EPA staff and the general public, including books, journals, abstracts, newsletters, and audiovisual materials generated by government agencies and the private sector. Also provides access to online computer service bulletin boards and CD-ROM systems.

#### Pollution Prevention Information Clearinghouse (PPIC)

U.S. Environmental Protection Agency  
Pollution Prevention Clearinghouse (PPIC)  
401 M Street, SW. (7409)  
Washington, DC 20460  
Phone: 202 260-1023  
Fax: 202 260-4659  
E-mail: [ppic@epa.gov](mailto:ppic@epa.gov)

#### U.S. Department of Transportation

Hazardous Materials Information Center  
Phone: 800 467-4922  
Provides information about DOT's hazardous materials regulations.

#### U.S. Government Printing Office

Superintendent of Documents  
P.O. Box 371954  
Pittsburgh, PA 15250-7954  
Phone: 202 512-1800  
Fax: 202 512-2250  
Home page: <[www.access.gpo.gov](http://www.access.gpo.gov)>

Prints and distributes the Code of Federal Regulations. Title 40, Parts 260 to 299, contains most of the RCRA requirements.

#### National Response Center (NRC)

Phone: 800 424-8802

In the event of a fire, explosion, or other release of hazardous waste that could threaten human health outside the facility, call the NRC to report the emergency. The NRC will evaluate the situation and help you make appropriate emergency decisions.

### ADDITIONAL INTERNET ADDRESSES

**EPA Home Page**  
<[www.epa.gov](http://www.epa.gov)>

**EPA RCRA Hazardous Waste Resources**  
<[www.epa.gov/osw/topics.htm](http://www.epa.gov/osw/topics.htm)>

**Code of Federal Regulations**  
<[www.epa.gov/docs/epacfr40/](http://www.epa.gov/docs/epacfr40/)>

**EnviroSense**  
<[es.inel.gov](http://es.inel.gov)>  
(contains technical, policy, and general information on pollution prevention topics)

**Office of Enforcement and Compliance Assurance**  
<[es.epa.gov/oeca/mfcac.html](http://es.epa.gov/oeca/mfcac.html)>  
(provides easy to understand compliance information targeted to specific industry sectors)

**RCRA Online**  
<[www.epa.gov/rcraonline](http://www.epa.gov/rcraonline)>  
(searchable database with interpretive memos and other information written by EPA to clarify regulations)

**Fabricare Legislative and Regulatory Education Organization**  
<[www.pond.com/~hhorning/resources/flare.html](http://www.pond.com/~hhorning/resources/flare.html)>

**National Clothesline**  
<[members.aol.com/ncled/index.html](http://members.aol.com/ncled/index.html)>  
(contains links to other garment care websites, including 19 relevant organizations)

**Neighborhood Cleaners Association International and the New York School of Drycleaning**  
<[home.sprynet.com/sprynet/ncai/nca.htm](http://home.sprynet.com/sprynet/ncai/nca.htm)>

## OTHER INDUSTRY CONTACTS

International Fabricare Institute  
12251 Tech Road  
Silver Spring, MD 20904  
Phone: 301 622-1900  
Fax: 301 236-9320  
Home page: <www.ifi.org>

## OTHER RESOURCES

Call the RCRA Hotline (800 424-9346) to order any of the following documents:

*Understanding the Hazardous Waste Rules: A Handbook for Small Businesses, 1996 Update* (EPA530-K-95-001) provides an overview to help small business owners and operators understand how best to comply with federal hazardous waste management regulations. This booklet defines the three categories of hazardous waste generators and assists small quantity generators in determining if federal regulations apply. This document explains how to obtain an EPA identification number, manage waste on site, and ship waste off site.

*RCRA: Reducing Risk From Waste* (EPA530-K-97-004) provides a brief overview of the national RCRA program and the role of the states. This booklet defines RCRA hazardous waste and how the RCRA regulations apply to generators, transporters, and TSDFs. It focuses on hazardous waste but also addresses municipal and industrial nonhazardous solid waste. It provides examples of waste and waste treatment and disposal methods, waste minimizing tips, links to other environmental laws related to hazardous substances, a glossary of terms, and a guide to the RCRA section of the *Code of Federal Regulations*.

*Identifying Your Waste: The Starting Point* (EPA530-F-97-029) is a short brochure that explains how to determine if you generate hazardous waste. It explains the definition of solid waste and describes the five ways that wastes can be considered hazardous. In addition, it provides information about how to manage the various types of waste that are generated by small businesses.

Call the Pollution Prevention Information Clearinghouse (202 260-1023) to order any of the following documents:

*Design for the Environment: Garment and Textile Care Program Fact Sheet* (EPA 744-F-93-004) is a document produced by EPA's Design for the Environment (DfE) program. The DfE Garment and Textile Care Project is a voluntary effort between representatives of the garment care industry and EPA. The goal of the project is to evaluate, test, and promote alternative technologies, materials, or processes that reduce waste and prevent pollution. One aspect has been encouraging "wet cleaning" and other alternatives to traditional dry cleaning using perc. This document provides an up-to-date description of the program and research efforts.

*Common Questions About Dry Cleaning* (EPA 744-K-96-003) addresses some of the potential health and environmental concerns with perc, and attempts to answer questions that consumers have about dry cleaning. The booklet also provides information on alternative garment care technologies, such as wet cleaning.

*Wet Cleaning* (EPA 744-K-96-002) offers a summary of the alternative technology known as "machine wet cleaning" and lists garment care facilities nationwide that offer this service.

*Plain English Guide for Perc Dry Cleaners: A Step-by-Step Approach to Understanding Federal Environmental Regulations* (EPA 303-B-96-002) summarizes the national environmental regulations that apply to garment care professionals who use perc, and provides a step-by-step approach to compliance.

*Dry Cleaning Sector Compliance Strategy* (EPA 305-F-96-003) outlines EPA's strategy to provide compliance assistance to the perc garment care industry. It provides a background of the industry and describes primary compliance issues. It is meant to help federal, state, and local regulators understand the specific compliance needs and challenges of the garment care industry.

*Chemicals in the Environment: Perc* (EPA 747-F-94-020) explains what perc is, how it is used, and what happens once it enters the environment.

