

# KANSAS DRY-CLEANER MANUAL

Complying with Kansas Environmental Regulations



KANSAS  
**SBEAP**

Small Business Environmental Assistance Program

Paid for in part by the Kansas Department of Health and Environment

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# INTRODUCTION

A dry-cleaning facility is any commercial establishment that operates for the purpose of cleaning garments or other fabrics utilizing a process that involves any use of dry-cleaning solvents.

Kansas dry cleaners are potentially regulated under three different environmental compliance programs: air quality (NESHAP), the Kansas Drycleaner Environmental Response Act (DERA) and hazardous waste. This manual can help you understand and comply with the requirements applicable to your dry-cleaning operations.

## Kansas SBEAP Assistance to Dry Cleaners

The Kansas Small Business Environmental Assistance Program (SBEAP) is operated by the Pollution Prevention Institute at Kansas State University, and helps small businesses comply with environmental regulations including air, hazardous waste and water. SBEAP staff can introduce businesses to pollution and spill prevention practices such as substitution of materials, process optimization, and use of proper secondary containment. SBEAP also offers compliance assistance to help businesses with permitting and reporting requirements. SBEAP is not a regulatory program; all assistance is confidential and is offered at no cost to small businesses.

SBEAP provides many free technical assistance services, including:

- compliance webinars and seminars
- technical manuals
- fact sheets
- compliance calendars
- on-site technical assistance
- a toll-free hotline, 800-578-8898
- access to information at [www.sbeap.org](http://www.sbeap.org)
- email assistance [sbeap@ksu.edu](mailto:sbeap@ksu.edu)

## Contacts

For general information, technical information, questions about regulations or assistance with completing dry-cleaning compliance calendars, call the Kansas SBEAP Technical Assistance Hotline at 800-578-8898 or email [sbeap@ksu.edu](mailto:sbeap@ksu.edu). You may also contact the Public Service Executive at Kansas Department of Health and Environment, Topeka at 785-296-1526 or visit [www.kdheks.gov/sbcs/index.html](http://www.kdheks.gov/sbcs/index.html).

Registered Kansas dry cleaners should check their mailboxes each December for the latest compliance calendar. This calendar is a comprehensive, environmental record-keeping tool. NESHAP and DERA records must be kept at your facility for five years, and hazardous waste records for three years. One calendar is required for each dry-cleaning machine.

*This manual was originally published in 1997 and most recently updated in 2020.*

# HOW TO USE THIS MANUAL

## What sections should you read?

### Perchloroethylene (Perc) Dry Cleaners

- Focus on the perchloroethylene (perc) dry-cleaning portion of this manual on **pages 4-15**.
- Read **page 4** for more information about the different types of environmental regulations that may affect you.
- Read the Bureau of Environmental Remediation section on **pages 5-7** as these regulations apply to every dry cleaner using perc.
- To determine which part of the Air Quality Regulations section applies to you, use the table on **page 9**.
- All perc dry cleaners should read the section on Hazardous waste regulations on **pages 12 and 13**.
- If you generate between 55 and 2,200 lbs. of hazardous waste each month, you will also need to read the Kansas generator requirements on **pages 14-15**.
- For more information about less toxic and alternative solvents that can help reduce your regulatory burden, see **page 27**.

### Petroleum (Petro) and Other Non-Perc Solvent Dry Cleaners

- Focus on the petroleum (petro) and other non-perc solvent dry-cleaning portion of this manual on **pages 16-26**.
- Read **page 16** for more information about the different types of environmental regulations that may affect you.
- Read the Bureau of Environmental Remediation section on **pages 17-20** and the Air Quality Regulations section on **page 21**.
- All perc dry cleaners should read the final section on Hazardous waste regulations on **pages 22 and 23**.
- If you generate between 55 and 2,200 lbs. of hazardous waste each month, you will also need to read the Kansas generator requirements on **pages 24-26**.
- For more information about less toxic and alternative solvents that can help reduce your regulatory burden, see **page 27**.

### Dry Cleaners Using Multiple Solvent Types

You will need to read all sections that apply to you. For example, if you have both perc and a petroleum dry-cleaning machines, you will need to read both those sections to determine the specific requirements for each machine.

### Additional Information

If you have any questions about how to use this manual, call SBEAP at 800-578-8898 or email [sbeap@ksu.edu](mailto:sbeap@ksu.edu).

# PERC SOLVENT DRY CLEANERS

Perchloroethylene (perc) dry cleaners must meet environmental requirements from three different sections (or bureaus) of the Kansas Department of Health and Environment (KDHE):

- Bureau of Environmental Remediation
- Bureau of Air
- Bureau of Waste Management

## Bureau of Environmental Remediation

The Kansas Drycleaner Environmental Response Act (DERA) is administered by the Bureau of Environmental Remediation (BER) to provide a regulatory preventive program with assessment and remediation activities at dry-cleaning facilities where releases have occurred. Dry cleaners must be registered with this bureau. This bureau collects a \$100 registration fee from dry cleaners each year by January 31. *Read pages 5-7 for more information about BER's requirements.*

## Bureau of Air

The Bureau of Air's (BOA) mission is to protect public health and the environment from air pollution. This KDHE section processes air-emission-related permits to ensure emission sources minimize the release of air contaminants and meet KDHE (state) and U.S. Environmental Protection Agency (EPA) (federal) regulatory requirements. They do this by setting standards to help keep machines in good working order. These requirements can also help save you money. *Read pages 8-11 for more information about BOA's requirements. The table on page 9 will guide you to your air quality category and subsequent compliance requirements.*

## Bureau of Waste Management

Bureau of Waste Management (BWM) regulates storage and disposal of solid and hazardous waste in accordance with KDHE (state) and EPA (federal) regulations. BWM regulations address hazardous waste storage, handling and disposal. BWM collects an annual \$150 hazardous waste monitoring fee from each dry cleaner who generates between 55 and 2,200 lbs. of hazardous waste per month. Note that this is a separate fee from what is collected annually when registering your facility with BER. Because perc is hazardous, all waste that touches perc is also hazardous. *Read pages 12-13 for more information about BWM's requirements. Depending on how much hazardous waste you generate, you may also need to read pages 14-15.*

Check out the list of less-toxic solvent options on page 27.

# PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

The Bureau of Environmental Remediation at KDHE administers regulations that implement the Kansas Drycleaner Environmental Response Act (DERA) and supplement existing state hazardous waste regulations. Regulations include the following:

- registration of dry-cleaning facilities
- performance standards for dry cleaners
- removal of dry-cleaning wastes from closed facilities
- use of surcharge funds and registration fees for cleanup of contaminated sites

An overview of DERA follows. For more detailed information, call the KDHE Bureau of Environmental Remediation at 785-296-6370 or visit [www.kdheks.gov/dryclean/index.html](http://www.kdheks.gov/dryclean/index.html).

### *Registration of Dry-Cleaning Facilities*

You must register each of your dry-cleaning facilities with KDHE's Bureau of Environmental Remediation annually (by January 31). New facilities or facilities that install a new machine must submit a registration form within 30 days of beginning operation. New owners must submit a registration form within 30 days of assuming ownership. A registration fee of \$100 must be submitted with the registration form. All perc and non-perc dry cleaners must register with KDHE Bureau of Environmental Remediation; only facilities that use 100% wet-cleaning technologies are exempt from this registration.

Note that this is an annual registration; it is different from the initial notification and reports that are due to KDHE under the air quality performance standards as noted on pages 8-11 of this manual. It is also different from the annual fee required by the Bureau of Waste Management for those dry cleaners that generate equal to or greater than 55 pounds of hazardous waste per month.

Kansas dry cleaners must post their KDHE registration number in a conspicuous location in the public area of each operating dry-cleaning facility.

#### **HOW TO REGISTER**

You can register your facility online through Kansas Environmental Information Management System (KEIMS) at <https://keims.kdhe.ks.gov/nsuite/ncore/external/home>. You can also download, print, and mail the form found at [www.kdheks.gov/dryclean/download/KDHE\\_Drycleaner\\_Registration\\_Form.pdf](http://www.kdheks.gov/dryclean/download/KDHE_Drycleaner_Registration_Form.pdf). If you do not have a computer or access to the Internet, call KDHE's Bureau of Environmental Remediation at 785-296-6370 to request a copy of the registration form. Send the completed form to — Kansas Dry-Cleaning Program KDHE—BER, 1000 SW Jackson, Suite 410 Topeka, KS, 66612-1367

# PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

### *Performance Standards*

All Kansas dry cleaners must comply with the following performance standards:

#### **Delivery Requirements**

All chlorinated solvent (perc) deliveries must be made using a closed, direct-coupled delivery system.

#### **Storage and Containment of Hazardous Materials and Waste**

Conditionally exempt small quantity generators (CESQG) of hazardous waste (less than 55 lbs./month) should dispose of perc waste in an acceptable on-site facility or send the waste to an approved hazardous waste treatment, storage, or disposal facility. Perc dry cleaner CESQGs may not dispose of the perc waste at a landfill or in the sanitary sewer.

Dry cleaners that generate more than 55 lbs./month must comply with additional hazardous waste regulations that are outlined on pages 14-15.

Each container in which hazardous waste is collected or stored must be labeled with the words “Hazardous Waste.”

You must mark any containers used to store hazardous waste for more than 72 hours with the date on which hazardous waste accumulation began. The date marking should be visible for inspection at all times.

You may evaporate dry-cleaning wastewater at your facility in a heated unit or a non-thermal unit using air atomization or misting. The unit should be made of materials compatible with and impervious to perc. The dry-cleaning wastewater should contain no free-phase solvent (no droplets suspended in the water or separate layer at the bottom). If the wastewater contains free-phase solvent, it cannot be evaporated on site and should be handled as a hazardous waste until the defects are repaired. Separator water, whether hazardous or not, can be handled as hazardous waste, and be hauled off by a licensed hazardous waste transporter.

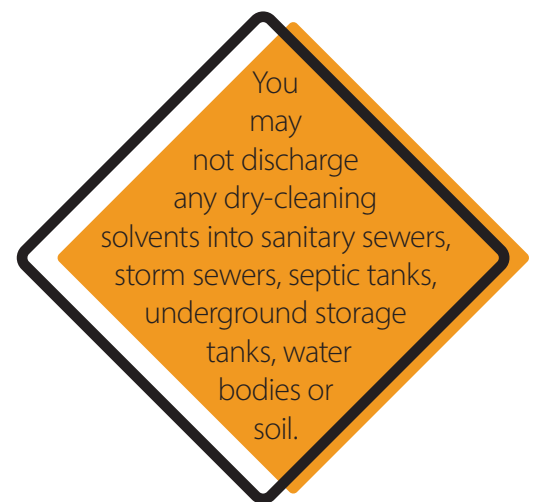
Dry-cleaning wastewater may not be stored for more than 60 days.

Keep hazardous waste containers in good condition. Keep containers closed except when adding or removing waste.

Do not store incompatible wastes in the same container. If you are not sure of compatibility, do not mix wastes.

You must construct a dike or other secondary containment structure around each dry-cleaning unit and each dry-cleaning solvent or waste storage area.

Perc dry-cleaning facilities need secondary containment for their units, solvent storage area and waste storage areas. These secondary containment structures for perc users must be made of epoxy, steel or polyethylene. KDHE approval is required before using any other material.



# PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

### *Performance Standards, Continued*

All secondary containment structures, as well as the sealant or caulk used, must be impervious to and compatible with perc. The secondary containment structures must be large enough to contain any spill, leak, or release of dry-cleaning solvent, wastes, or both. Secondary containment for the dry-cleaning unit must be capable of containing any leak, spill, or release of dry-cleaning solvents, dry-cleaning wastes, or both. Floor drains are not allowed in secondary containment structures.

Inspect hazardous waste containers and secondary containment for deterioration weekly. Any deficiency must be repaired within five calendar days. Keep records of inspections and repairs for at least five years.

### **Removal of Dry-Cleaning Wastes from Closed Facilities**

If you cease operation of your dry-cleaning facility for at least 45 continuous days, you must remove all dry-cleaning solvents and wastes from your facility within 45 days after the last day of operation. Dry-cleaning wastes must be disposed of according to state and federal hazardous waste regulations. Then send a notification of closure letter to KDHE.

A facility closure form is available online at <https://www.kdheks.gov/dryclean/download/DCclosureform.pdf> or a letter may be sent to: Kansas Dry-Cleaning Program KDHE-BER 1000, SW Jackson, Suite 410, Topeka, KS, 66612-1367. This form may also be faxed to 785-559-4261.

### **KDHE Dry-Cleaning Facility Release Trust Fund Program**

#### **Kansas Environmental Surcharge and Solvent Fee**

An environmental surcharge and dry-cleaning solvent fee are collected by the Kansas Department of Revenue and are used to fund cleanup of contaminated dry cleaner sites.

The surcharge is 2.5 percent of gross receipts (not including sales tax) received from dry-cleaning or laundering services. Dry cleaners currently registered for the retailer's tax have been automatically registered for the environmental surcharge. Solvent fee rates are now \$5.50 per gallon for perc (chlorinated) solvents and \$0.55 per gallon for petroleum (non-chlorinated) and any other non-perc solvents. Dry cleaners must now submit their KDHE registration number to the solvent distributor before they can obtain solvent. The distributor will collect the solvent fee from the dry cleaner, and the distributor will pay the director of taxation. This means the dry cleaner will no longer pay the solvent fee directly to the state.

#### **Use of Surcharge Funds for Cleanup of Contaminated Sites**

If your facility has a proven release of dry-cleaning solvent that contaminated soil and/or groundwater, you may apply to KDHE's Dry-Cleaning Facility Release Trust Fund Program. It is a state-led corrective action program conducted by a team made up of a KDHE project manager serving as the lead and an environmental consultant providing technical expertise and field work.

For more information call KDHE at 785-296-6370 or visit [www.kdheks.gov/dryclean/dryclean\\_trust\\_fund.htm](http://www.kdheks.gov/dryclean/dryclean_trust_fund.htm). An analysis of at least one groundwater or soil sample (as a substitute with pre-approval from KDHE) is required to prove that the release has occurred. Priority will be given to sites that require emergency action.



# PERC SOLVENT DRY CLEANERS

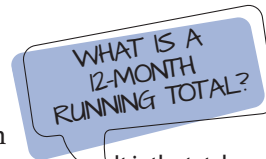
## Air Quality Regulations

After a facility has calculated its 12-month perc total (Step One), it can use that information to determine its regulatory requirements (Step Two). The use of perchloroethylene (perc) dry-cleaning solvent is highly regulated due to its toxicity. In recent years, many Kansas dry cleaners have switched to a less toxic non-perc solvent. See page 27 to learn about less-toxic solvent options. Under the Clean Air Act (CAA), EPA has established a maximum achievable control technology (MACT) standard that regulates perc dry cleaners. This standard was finalized by the EPA in September 1993. The regulations are included in Chapter 40 of the Code of Federal Regulations, Part 63, Subpart M (40 CFR 63 Subpart M).

Compliance requirements differ depending on how much perc you purchase in a 12-month period and when your perc dry-cleaning unit was installed. There are two steps to identifying your compliance requirements. The first step to determining which standards need to be followed is to calculate your 12-month running total. The chart below as well as the one found in your compliance calendar provides guidance. If you need more assistance in determining your compliance requirements, contact the Kansas SBEAP.

### Step One- Calculate Your 12-Month Running Total

This is an example of how a dry cleaner calculated his 12-month running total in May 2020. The dry-cleaner compliance calendar will help you stay up to date.



It is the total amount of perc you purchased in the previous 12 months

#### May 2020 Example:

12-month total from last month (Apr. 2020) =	80	← This is the amount purchased from May 2019 through April 2020. This is 12 months of purchases (the running total). Let's assume he bought 80 gallons in those 12 months.
Subtract perc purchased in May 2019 =	20	← Assume he bought 20 gallons in May 2019. He needs to subtract May 2019, so he can add in the new May 2020 data.
Subtotal =	60	← This is only 11 months worth of purchases. He needs to add in the newest month's (May) totals to get back up to 12 months worth of purchases.
This month's (May 2020) perc purchases		
Date	Gallons	
5/14	5	
5/29	5	
May 2020 perc total =	10	← Assume he bought five gallons of perc on May 14 and another five gallons on May 29, 2020. That's 10 gallons total.
<b>Current 12-month running total (Subtotal + May 2020 total) =</b>	<b>70</b>	← Now he adds together the subtotal and the May 2020 perc purchases. This is the new 12-month rolling total (June 2019 through May 2020).



# PERC SOLVENT DRY CLEANERS

## Air Quality Regulations

### Step Two- Use the Table To Identify Your Compliance Requirements

#### KANSAS AIR QUALITY REQUIREMENTS FOR PERCHLOROETHYLENE DRY CLEANING FACILITIES

REQUIREMENT SUMMARY	SMALL AREA SOURCE	LARGE AREA SOURCE	MAJOR SOURCES (NONE IN KANSAS AS OF 2019)
Dry-to-dry facilities	Purchase less than 140 gallons perc/year	Purchase 140-2,100 gallons perc/year	Purchase more than 2,100 gallons perc/year
<b>Process vent control</b>			
Constructed or reconstructed before Dec.9, 1991	Dry-to-dry machine	Dry-to-dry machines with refrigerated condenser;** carbon adsorber installed before Sept. 22, 1993, can remain; it does not have to be replaced by a refrigerated condenser.	
On or after Dec.9, 1991, but before Dec. 21, 2005	Dry-to-dry machine with refrigerated condenser		Dry-to dry machine, refrigerated condenser** followed by carbon adsorber** operated immediately before or as the door is opened
On or after Dec. 21, 2005	Dry-to-dry machine with refrigerated condenser** followed by carbon adsorber** operated immediately before the door is opened		
On or after Dec. 21, 2020	In addition to the requirements above, perc dry-cleaning systems are not allowed to be located in a building with a residence.		
<b>Fugitive control</b>			
	Sealed containers; leak detection/repair		
<b>Monitoring</b>			
	Refrigerated condenser: Take and record weekly readings of either temperature or pressure readings. If measuring temperature, take readings of the outlet temperature before the end of the cool-down or drying cycle while the gas-vapor stream is flowing through the condenser. Take pressure readings during the drying phase to confirm the value is within manufacturers' operating instructions. Carbon adsorber: If required, measure the concentration of perc in the carbon adsorber weekly using a colorimetric detector tube or a perc gas analyzer. Measurement should be taken at the end of the last dry cycle.		
<b>Inspections</b>			
	While machine is operating, inspect weekly for perceptible leaks (those that can be seen, felt or smelled). Inspect for vapor leaks monthly using a halogenated hydrocarbon detector or a perc gas analyzer. Repair leaks and maintain records.	Inspect weekly for perceptible leaks. Inspect for vapor leaks on a monthly basis using a perc gas analyzer and operated according to EPA Method 21. Repair leaks and maintain records.	
<b>Reporting</b>			
	Submit a notification of compliance status form within 30 days of startup. This notification is required when a new machine is installed at an existing site. Contact SBEAP for form.		

# PERC SOLVENT DRY CLEANERS

## Air Quality Regulations

### *New Small and Large Area Sources*

New small area sources are dry cleaners who installed their dry-cleaning machines on or after December 9, 1991, and purchase 140 or less gallons of perc in any 12-month period. New large area sources also installed their units on or after December 9, 1991, but purchase between 140 and 2,100 gallons of perc in any 12-month period. You must keep documentation on site that proves your installation date and your perc purchasing amount. Keep copies of design specifications and operating manuals for each dry-cleaning machine. If you do not have an operating manual, contact the manufacturer for a copy.

### General Requirements

- Keep door closed at all times except when adding or removing clothes.
- Run the machine based on manufacturer specifications and recommendations.
- Before removing any filters from the facility, drain them in their housing or in a sealed container for a 24-hour period.
- Store all perc and perc wastes in sealed containers that do not leak.
- Leak inspections — Check for leaks in and around the machine weekly. Each month, at least one leak inspection must be done using the enhanced leak detection and repair (LDAR) inspection method. This means using an instrument known as a halogenated hydrocarbon detector or perc gas analyzer. For tips on how to conduct this type of inspection, see the dry-cleaner compliance manual. The other leak inspections can be done using the perceptible method, which involves checking for any leaks that are obvious by sight, smell or touch (for instance, drops of perc are visible on the outside of a machine or air can be felt coming from a machine).
  - Leak checks must be done when the machine is running.
  - Dry-cleaning equipment that must be inspected includes hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, water separators, muck cookers, stills, diverter valves and cartridge-filter housings.
  - See the compliance calendar for 10 tips for using your perc detector.
- Make sure to document the results of each inspection in the compliance calendar.
- The operator must repair any leaks found within 24 hours. If new parts are needed, they should be ordered within two days of finding the leak. New parts should be installed within five days of receiving the part.
- If you install any new equipment or add-on devices, you must notify KDHE and EPA.
- Perc usage/purchase logs are up to date and receipts for perc purchases are available (must be kept on site for a minimum of five years).
- The sum of all perc purchases made in the previous 12 months is calculated. This is known as the running total and is detailed on page 8.
- A log showing dates of leak inspections is up to date and kept on site.
  - If any leaks were found, name or location of the components involved are listed.
  - Dates of repair and records of written or verbal orders for repair parts are available.
  - Keep all perc purchases and record-keeping logs on site for a minimum of five years.
- A weekly inspection log of air pollution control devices must be kept on site.

# PERC SOLVENT DRY CLEANERS

## Air Quality Regulations

### *New Small and Large Area Sources, continued*

#### Requirements for Air Pollutant Control Devices

- Keep documentation about each installed control device.
- A weekly leak test on each air pollutant control device should be performed and recorded.
- New small and large area sources must use a refrigerated condenser or equivalent control device. If the machine was installed after December 21, 2005, it must be non-venting (a closed-loop system) and be equipped with a refrigerated condenser and secondary carbon adsorber. The carbon adsorber must be desorbed in accordance with manufacturer's instructions.
- The refrigerated condenser cannot release perc during machine operation and a valve must be installed to prevent outside air from coming into the condenser when the door is open.
- If the refrigerated condenser on your dry-cleaning unit is equipped with a pressure gauge, then you must document weekly the high- and low-pressure readings (taken during the drying phase). If you are recording the pressure readings, you are not required to record the temperature of the exhaust on the outlet of the condenser, although it is recommended as a best management practice.
- If you are recording the temperature, take readings of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45°F or less. If the temperature is greater than 45°F, you must make repairs or adjustments and promptly write down the corrective actions taken.
- The carbon adsorber must be used at all times the machine is running and the exhaust of the carbon adsorber (sniffer) must be measured once each week. A colorimetric detector tube or perc gas analyzer should be used to measure the perc content. The measurement should be taken at the end of the last dry-cleaning cycle while the perc is released to the adsorber prior to steaming out (cleaning) the adsorber. The concentration of perc must be 100 parts per million (ppm) or less and the concentration must be recorded weekly.



A great way to keep track of record-keeping requirements is to use the dry cleaner compliance calendar.

#### Perc Machines Installed On or After Dec. 21, 2020

In addition to the requirements above, perc dry-cleaning systems are not allowed to be located in a building with a residence.

#### Installing New Equipment

If you install new machines or add on control devices, you must now be in full compliance at the time of startup. Whenever you get new equipment, you also must notify KDHE that you are in compliance by submitting an initial notification, pollution prevention compliance report and control report. Call SBEAP for assistance at 800-578-8898.

#### Occasional Exceedances

If you exceed your allowable perc consumption as calculated in your 12-month running total, and it has been at least three years since your most recent prior exceedance, this will not affect your source status. For example, a small area source that uses more perc than allowed once every three years will not be reclassified as a large area source. If you are a small area source and your 12-month perc use exceeds allowable limits more frequently than once in three years, you have 180 days to comply with large area source requirements. During that period, you must also submit a control requirements compliance report to KDHE BOA. If you have more frequent exceedances, you can request that KDHE determine whether they were unusual or “episodic” occurrences. Episodic exceedances (those not expected to recur) should not affect the regulatory status of your facility.

# PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

All perc dry cleaners are generators of hazardous waste. Because it is your responsibility to determine which of your wastes are hazardous and how to properly handle and dispose of them, you should become familiar with the regulations that apply to generators of hazardous waste. For many perc dry cleaners, this includes documenting initial and annual training. For more information, you should review the Hazardous Waste Generator Handbook published by KDHE. You can download the handbook at <https://www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf>.

Need hazardous waste handler training? Go to [SBEAP.org](http://SBEAP.org) or contact us at [sbeap@ksu.edu](mailto:sbeap@ksu.edu).

### *What is Hazardous Waste?*

#### Definitions of Hazardous Waste

EPA has defined a waste as hazardous if it has certain properties that could pose danger to human health or the environment after being discarded. There are two categories of hazardous waste: *listed* and *characteristic*.

Perc, when used as a solvent, is a listed hazardous waste, EPA waste code F002. In addition to wastes specifically listed as hazardous, a waste is considered hazardous if it exhibits one or more of the following characteristics: ignitability, toxicity, corrosivity or reactivity. Perc filters often carry the toxicity waste code of D039 (tetrachloroethylene). When it comes to perc-related waste, anything that comes in contact with the solvent should be considered a hazardous waste. A waste is ignitable if it has a flash point\* of lower than 140° F (consult the safety data sheet), readily causes fires, and burns so vigorously that it creates a hazard, or is an ignitable compressed gas or an oxidizer as defined by Department of Transportation (DOT) regulations. It would have the waste code D001. Certain solvents used in routine maintenance and cleaning of equipment may be ignitable.

\* The lowest temperature at which vapors above a volatile combustible substance ignite in air when exposed to flame.

Hazardous wastes generated by most dry cleaners include, but are not limited to —

- still bottoms
- filter cartridges
- separator water
- partially empty solvent containers or drums that may contain residual solvents
- lint and spent carbon
- dry-cleaning wastewater

#### Shipping Waste Off-Site

The three most important things to remember when shipping waste off site are to:

- choose a reputable hauler and facility with EPA ID numbers (hauler or transporter must also be registered with KDHE)
- package and label all waste appropriately
- prepare a hazardous waste manifest (paper or e-manifest).

You must ensure that your transporter and waste facility meet applicable state and federal regulations. Disposal facilities must have permits issued by EPA or the state in which the facility is located. Under federal law, you may use only authorized hazardous waste transporters and disposal facilities that have been assigned EPA identification numbers. The hauler you choose will transport your waste, and the waste management facility will be its final destination. Remember, you are still responsible for the waste you produce.

# PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

### *Hazardous Waste Generator Categories*

Kansas regulations define four categories of hazardous waste generators: conditionally-exempt small quantity generator (CESQG), Kansas small quantity generator (KSQG), and small or large quantity generator (SQG or LQG). As a CESQG, you may not be subject to hazardous waste notification or reporting requirements. However, dry-cleaner hazardous wastes in any quantity must be managed using specific hazardous waste management standards. Remember, even if you aren't subject to the hazardous waste reporting requirements, you must still register with the KDHE Bureau of Remediation as explained on page 5.

You must determine your generator category to determine which waste regulations apply to you. Your facility may change its status from one category to another, depending on how much waste it generates in a given period. To determine your hazardous waste generator category, count all quantities of hazardous waste generated each month that you store on site, package and transport off site, place directly in a regulated on-site treatment or disposal unit, and generate as distillation still bottoms or sludge removed from product tanks.

*Do not* count wastes that are:

- specifically exempt (for example, used oil that is recycled)
- less than three percent of content left in the bottom of a container that has been otherwise completely emptied by conventional means such as pouring or pumping
- reclaimed continuously on site without storing (However, count residue removed from recycling apparatus and spent cartridge filters.)
- managed in an elementary neutralization unit, an enclosed treatment unit, or a wastewater treatment unit, or
- discharged directly to a publicly owned treatment works (POTW) without being stored

**REMEMBER —**  
Discharge of dry-cleaning wastewater to the ground or sewer is prohibited in Kansas.

Regardless of your generator category, you may not dispose of any quantity of hazardous waste by dumping it on the surface of the ground or into surface waters, burying it at an unpermitted site or using waste such as a solvent to kill weeds.

### *Requirements for Hazardous Waste Generators*

Most perc dry cleaners fall into either the CESQG or KSQG generator category. If a KSQG, SQG, or LQG, you are subject to several regulations, including obtaining an EPA identification number, preparing a manifest for all off-site shipments of hazardous waste, and meeting emergency preparedness requirements. Following are typical KSQG requirements. If you think you may be classified as an SQG or LQG, contact SBEAP at 800-578-8898 or KDHE at 785- 296-1600 for details of your requirements. More detailed requirements for each generator category are summarized in the Hazardous Waste Generator Handbook available at [www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf](http://www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf).

Hazardous waste monthly generation rate	Hazardous waste generator category
< 55 lbs.	CESQG
≥ 55 lbs. and ≤ 220 lbs.	Kansas SQG (or KSQG)
220 lbs. and < 2,200 lbs.	SQG
≥ 2,200 lbs.	LQG

# PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

### KSQG Requirements

1. Make a written determination of which wastes generated by the facility are hazardous. At perc dry cleaners, the spent perc waste, filters and other materials that touch the perc are typically all hazardous waste. Using your knowledge of process and the perc SDS, fill out the hazardous waste determination form located at the back of the compliance calendar.
2. All hazardous wastes must be managed by treatment on site, or sent off site to a commercial treatment, storage, or disposal (TSD) facility or to a facility designated for recycling.
3. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE. The notification must be updated whenever the information submitted on the original form changes. This form can be downloaded at [www.kdheks.gov/waste/forms/hazwaste/gen500-8700-12.pdf](http://www.kdheks.gov/waste/forms/hazwaste/gen500-8700-12.pdf) or you can call 785-296-1600 for the most recent edition of the notification form.
4. Prepare a manifest or tolling agreement for all shipments of hazardous wastes that are transported off site for treatment, recycling, storage or disposal. Your commercial hazardous waste vendor will be able to provide the electronic or paper manifest or tolling agreement.
5. Prepare or work with your vendor to obtain a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste.
6. Package, label, mark and placard all shipments of hazardous waste in accordance with pre-transportation requirements contained in K.A.R.28-31-4(e). Your vendor may offer this service.
7. Prepare and maintain the following records:
  - a copy of each manifest signed by the designated facility to which waste was sent and a copy of any tolling agreements for wastes shipped to a recycling facility (The signed manifests must be maintained for three years from the date waste was shipped off-site.)
  - manifest exception reports for three years
  - copies of LDR records for three years from the date waste was last shipped off site
  - hazardous waste determination documents and related analyses for three years from the date waste was last shipped off site
  - inspection records for three years, although the BER requires you keep records for a minimum of five years
8. Meet the following storage requirements for hazardous waste containers:
  - mark or label each container with the words “Hazardous Waste” and accumulation start date
  - maintain containers in good condition
  - use a container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes
  - keep containers closed except when adding or removing waste
  - inspect each container storage area monthly when waste is present (also suggested when waste not present) and maintain a written record of each inspection (Note: BER requires weekly inspections for dry cleaners.)
9. If you have hazardous waste storage tanks, see the Hazardous Waste Generator Handbook for tank storage requirements.

# PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

10. Meet the following preparedness and prevention requirements:

- properly maintain the facility to minimize releases of hazardous waste
- provide appropriate communication, alarm system, or a telephone or two-way radio
- provide fire extinguishing and spill-control equipment
- maintain and test all required equipment to ensure proper operation
- provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment maintain aisle space sufficient to allow passage of personnel and fire, spill-control, and decontamination equipment
- as appropriate for type of waste handled and potential need for emergency services, make arrangements with local hospital, police department, fire department, and any emergency response team to familiarize them with facility layout and hazards involved with wastes generated (Such arrangements should be documented.)

11. Meet the following emergency preparedness and training requirements:

- designate emergency coordinator who is on the premises or on call at all times to coordinate emergency response measures
- post name and phone number of emergency coordinator; phone number of fire department; and location of fire extinguishers, spill-control equipment, and fire alarms next to one telephone that is accessible during an emergency
- ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures
- carry out appropriate response to any emergency that arises

12. Before April 1 of each year, submit the annual monitoring fee of \$150 to KDHE. Note that this is separate from the dry-cleaner registration fee.

13. Report all international shipments of hazardous waste to KDHE and EPA.

SQGs and LQGs  
have additional  
requirements.  
For assistance,  
contact SBEAP at  
[sbeap@ksu.edu](mailto:sbeap@ksu.edu).



# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

Petroleum (petro) and other non-perc solvent dry cleaners potentially must meet environmental requirements from three different sections (or bureaus) of the Kansas Department of Health and Environment:

- Bureau of Environmental Remediation
- Bureau of Air
- Bureau of Waste Management

Examples of petro and other non-perc solvents that have been registered for use in Kansas include, but are not limited to the following: petroleum, mineral spirits, Stoddard, DF-2000™ Fluid, EcoSolv®, SolvonK4, and GreenEarth® D5 solvent. Regardless of the type of petro or other non-perc solvent used, as a dry cleaner, you are responsible for satisfying all associated environmental requirements (e.g., registration, payment of solvent fees, weekly inspections, compliance calendar use/recordkeeping, proper management of any generated wastes, etc.).

## **Bureau of Environmental Remediation (BER)**

The Kansas Drycleaner Environmental Response Act (DERA) is administered by this KDHE section to provide a regulatory preventive program with assessment and remediation activities at dry-cleaning facilities where releases have occurred. Dry cleaners must be registered with this bureau. This bureau collects a \$100 registration fee from dry cleaners each year by January 31. *Read pages 17-20 for more information about BER's requirements.*

## **Bureau of Air (BOA)**

The Bureau of Air's mission is to protect public health and the environment from air pollution. This KDHE section processes air-emission-related permits to ensure emission sources minimize the release of air contaminants and meet KDHE (state) and U.S. Environmental Protection Agency (EPA) (federal) regulatory requirements. They do this by setting standards that help you keep your machine in good working order and can help you save money. Most non-perc dry cleaners do not need an air permit. *Read page 21 for more information about BOA's requirements.*

## **Bureau of Waste Management (BWM)**

This bureau regulates storage and disposal of solid and hazardous waste in accordance with KDHE (state) and EPA (federal) regulations. The Bureau of Waste Management has rules to make sure you are properly storing, handling, and getting rid of your waste. As part of their hazardous waste monitoring fee, they annually collect \$150 from each dry cleaner who generates between 55 and 2,200 lbs. of hazardous waste per month. Note that this is a separate fee from what is collected annually when registering your facility with BER. BWM requirements help you manage your waste properly so it doesn't end up where it shouldn't. Most non-perc cleaners do not generate hazardous waste. *Read pages 22-26 for more information about BWM's requirements.*

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

The Bureau of Environmental Remediation at KDHE administers regulations that implement the Kansas Dry Cleaner Environmental Response Act (DERA) and supplement existing state hazardous waste regulations. The regulations include the following:

- registration of dry-cleaning facilities
- performance standards for dry cleaners
- removal of dry-cleaning wastes from closed facilities
- use of surcharge funds and registration fee for cleanup of contaminated sites

An overview of DERA follows. For more detailed information, contact the KDHE Bureau of Environmental Remediation at 785-296-6370 or go to their website at [www.kdheks.gov/dryclean/index.html](http://www.kdheks.gov/dryclean/index.html).

### *Registration of Dry-Cleaning Facilities*

You must register annually (by January 31) each of your dry-cleaning facilities with KDHE's Bureau of Environmental Remediation. New facilities or facilities that install a new machine must submit a registration form within 30 days of beginning operation. New owners must submit a registration form within 30 days of assuming ownership. A registration fee of \$100 must be submitted with the registration form. All perc and non-perc dry cleaners must register with KDHE Bureau of Environmental Remediation; only facilities that use 100% wet-cleaning technologies are exempt from this registration.

Note, this is different from the annual fee required by the Bureau of Waste Management for those dry cleaners that generate greater than 55 pounds of hazardous waste per month.

Kansas dry cleaners must post their KDHE registration number in a conspicuous location in the public area of each operating dry-cleaning facility.

#### **HOW TO REGISTER**

You can register your facility online through Kansas Environmental Information Management System (KEIMS) at <https://keims.kdhe.ks.gov/nsuite/ncore/external/home>. You can also download, print, and mail the form found at [www.kdheks.gov/dryclean/download/KDHE\\_Drycleaner\\_Registration\\_Form.pdf](http://www.kdheks.gov/dryclean/download/KDHE_Drycleaner_Registration_Form.pdf). If you do not have a computer or access to the Internet, call KDHE's Bureau of Environmental Remediation at 785-296-6370 to request a copy of the registration form. Send the completed form to — Kansas Dry-Cleaning Program KDHE—BER, 1000 SW Jackson, Suite 410 Topeka, KS, 66612-1367

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

### *Performance Standards*

All Kansas dry cleaners must comply with the following DERA performance standards:

#### **Delivery Requirements**

All petro and other non-perc solvents must be delivered in accordance with K.A.R. 22-7-9 which states, any individual conducting the transfer of flammable or combustible liquids from a transport vehicle to a storage tank governed by the Kansas Fire Prevention Code shall verify the available capacity of the tank prior to starting transfer operations.

#### **Storage and Containment of Hazardous Materials and Waste**

As a petro or other non-perc solvent dry cleaner, you probably don't generate regulated hazardous waste unless the flash point of your solvent is less than 140°F. If you do generate regulated hazardous waste, then conditionally-exempt small quantity generators (CESQGs) of hazardous waste (generate less than 55 lbs./ month) that accumulate up to 55 lbs. of hazardous waste, should dispose of waste in an acceptable on-site facility or send the waste to an approved hazardous waste treatment, storage, or disposal facility. Dry cleaners that generate more than 55 lbs./ month must comply with additional hazardous waste regulations outlined on pages 24-26.

Each container in which hazardous waste is collected or stored must be labeled with the words "Hazardous Waste." You must mark any containers used to store hazardous waste for more than 72 hours with the date on which hazardous waste accumulation began. The date marking should be visible for inspection at all times.

If you generate separator water, then you may evaporate dry-cleaning wastewater at your facility in a heated unit or a nonthermal unit using air atomization or misting. The unit should be made of materials compatible with and impervious to the dry-cleaning solvent.

The dry-cleaning wastewater should contain no free-phase solvent (no droplets suspended in the water). If the wastewater contains free-phase solvent, it cannot be evaporated on site and should be handled as a hazardous waste until the defects are repaired. Separator water, whether hazardous or not, can be handled as hazardous waste, and be hauled off by a licensed hazardous waste transporter.

Dry-cleaning wastewater may not be stored for more than 60 days.

Keep hazardous waste containers in good condition. Keep containers closed except when adding or removing waste. Do not store incompatible wastes in the same container. If you are not sure of compatibility, do not mix wastes.

You must construct a dike or other secondary containment structure around each dry-cleaning unit and each dry-cleaning solvent or waste storage area.

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

Dry-cleaning facilities using petro or other non-perc solvents need secondary containment for their units, the solvent storage area and the waste storage areas. These secondary containment structures for petro and other non-perc solvent users may be constructed of epoxy, steel, or concrete. All secondary containment structures, as well as the sealant or caulk used, must be impervious to and compatible with the dry-cleaning solvent in use or stored on site. Secondary containment for the dry-cleaning unit must be capable of containing any leak, spill, or release of dry-cleaning solvents, dry-cleaning wastes, or both. Floor drains are not allowed in secondary containment structures.

Inspect hazardous waste containers and secondary containment for deterioration weekly. Any deficiency must be repaired within five calendar days. Keep records of inspections and repairs for at least five years.

### Removal of Dry-Cleaning Wastes from Closed Facilities

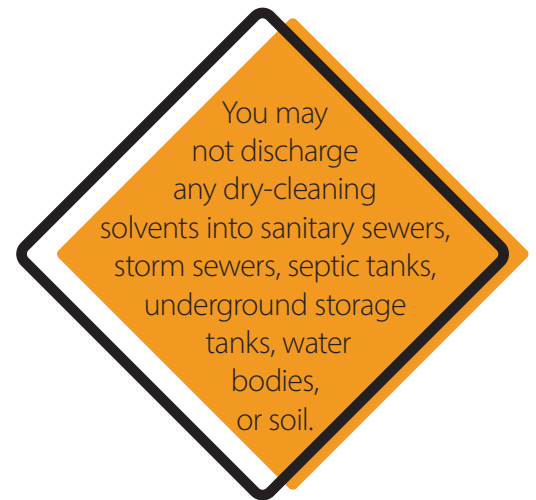
If you cease operation of your dry-cleaning facility for at least 45 continuous days, you must remove all dry-cleaning solvents and wastes from your facility within 45 days after the last day of operation. Dry-cleaning wastes must be disposed of according to state and federal hazardous waste regulations. Then send a notification of closure letter to KDHE.

### Special Waste Requirements

A special waste is a solid waste that because of certain characteristics, requires special management standards due to concerns for owner or operator safety regarding handling, management, or disposal. An example of a special waste would be waste generated by GreenEarth® dry cleaners. As part of the BER performance standards, secondary containment for special waste is required.

The generator of the special waste must obtain a special waste disposal authorization from the Bureau of Waste Management (BWM) prior to transfer and disposal. The special waste disposal request form is available on the KDHE website at [www.kdheks.gov/waste/about\\_compliance.html](http://www.kdheks.gov/waste/about_compliance.html) or call BWM at (785) 296-0681 for more information.

A facility closure form is available online at <https://www.kdheks.gov/dryclean/download/DCclosureform.pdf> or a letter may be faxed to 785-559-4261 or mailed to: Kansas Dry-Cleaning Program KDHE-BER 1000, SW Jackson, Suite 410, Topeka, KS, 66612-1367.



# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Bureau of Environmental Remediation (BER) Regulations

### KDHE Dry-Cleaning Facility Release Trust Fund Program

#### Kansas Environmental Surcharge and Solvent Fee

An environmental surcharge and dry-cleaning solvent fee are collected by the Kansas Department of Revenue and are used to fund cleanup of contaminated dry cleaner sites.

The surcharge is 2.5 percent of gross receipts (not including sales tax) received from dry-cleaning or laundering services. Dry cleaners currently registered for the retailer's tax have been automatically registered for the environmental surcharge. Solvent fee rates are now \$5.50 per gallon for perc (chlorinated) solvents and \$0.55 per gallon for petroleum (non-chlorinated) and any other non-perc solvents. Dry cleaners must now submit their KDHE registration number to the solvent distributor before they can obtain solvent. The distributor will collect the solvent fee from the dry cleaner, and the distributor will pay the director of taxation. This means the dry cleaner will no longer pay the solvent fee directly to the state.

#### Use of Surcharge Funds for Cleanup of Contaminated Sites

If your facility has a proven release of dry-cleaning solvent that contaminated soil and/or groundwater, you may apply to KDHE's Dry-Cleaning Facility Release Trust Fund Program. It is a state-led corrective action program conducted by a team made up of a KDHE project manager serving as the lead and an environmental consultant providing technical expertise and field work.

For more information call KDHE at 785-296-6370 or visit [www.kdheks.gov/dryclean/dryclean\\_trust\\_fund.htm](http://www.kdheks.gov/dryclean/dryclean_trust_fund.htm).

An analysis of at least one groundwater or soil sample (as a substitute with pre-approval from KDHE) is required to prove that the release has occurred. Priority will be given to sites that require emergency action.

Questions  
about compliance  
requirements?  
Contact SBEAP for  
confidential, free  
assistance.  
Call 800-578-8898 or  
email [sbeap@ksu.edu](mailto:sbeap@ksu.edu).

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Air Quality Regulations

Dry cleaners using petroleum solvents known under a variety of names, could be subject to a federal air regulation under the New Source Performance Standards (NSPS) if they operate a transfer machine that has a dryer capacity equal to 84 pounds or more. The regulations are included in Chapter 40 of the Code of Federal Regulations, Part 60, Subpart JJJ (40 CFR 60 Subpart JJJ). Please note, this regulation does NOT apply to closed loop systems or systems that use a non-petroleum solvent.

The following equipment is regulated if it is a transfer machine and is installed at facilities having a total manufacturer's rated dryer capacity equal to or greater than 84 pounds (38 kilograms): petroleum solvent dry-cleaning dryers, washers, filters, stills and settling tanks.

The manufacturer's rated dryer capacity is the dryer's rated capacity of articles in pounds or kilograms of clothing per load, dry basis. Typically this capacity can be found on the manufacturer's nameplate. Total capacity is the sum of the rated capacity for each petroleum dryer that is in existing operation or is proposed for operation after a facility modification is finished.

A dryer is exempt from these regulations if it was constructed between December 14, 1982, and September 21, 1984, and uses less than 4,700 gallons (17,800 liters) of solvent per year.

Every dryer installed must be a solvent-recovery type. Each solvent filter must be a cartridge filter and must be drained in its sealed housing for eight hours before removal.

Dryers must have leak inspection and repair information posted on them with a clearly visible label from the manufacturer. Leak inspection and repair cycle information must be recorded in the operating manual. If you are subject to the NSPS, an initial performance test is required for petroleum solvent dry-cleaning machines. **Your machine manufacturer should have completed this performance test and be able to provide you with documentation to show the test has been performed.** Conducting an initial performance test may be extremely difficult, especially for dry-to-dry machines. You must verify the flow rate of recovered solvent from the solvent-recovery dryer at the end of the recovery cycle is no greater than 0.05 liters per minute (50 milliliters per minute). You must conduct the performance tests for a minimum of two weeks, with at least 50 percent of dryer loads monitored for their final-recovered solvent flow rate.

It is suggested that measurement of the flow rate of recovered solvent be taken from the outlet of the solvent-water separator. Near the end of the recovery cycle, you must divert the entire flow of recovered solvent to a measuring container, such as a graduated cylinder. As the recovered solvent collects in the graduated cylinder, you must record the elapsed time in periods of one minute or greater.

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

Calculate the recovered-solvent flow rate by dividing the volume of solvent collected in a period by the length of time elapsed during the period. Results must be expressed in liters per minute (there are 1,000 milliliters in a liter). You must continue with the recovery cycle and monitoring procedure until the flow rate of solvent is less than or equal to 0.05 liters per minute. For five years, keep records of types of articles cleaned and total length of the cycle.

As a petro or other non-perc solvent dry cleaner, you probably don't generate regulated hazardous waste unless the flash point of your solvent is less than 140°F. It is your responsibility to determine which of your wastes are hazardous and how to properly handle and dispose of them. Some wastes, while not hazardous, do require a special waste authorization, such as GreenEarth® dry-cleaning wastes (see page 27). You should become familiar with the regulations that apply to generators of hazardous waste. For more information, you may want to read the Hazardous Waste Generator Handbook published by KDHE. You can download the handbook at <http://www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf>.

### *What is Hazardous Waste?*

#### Definitions of Hazardous Waste

EPA has defined a waste as hazardous if it has certain properties that could pose danger to human health or the environment after being discarded. There are two categories of hazardous waste: *listed* and *characteristic*. Wastes can be specifically listed as hazardous, or a waste can be hazardous if it exhibits one or more of the following characteristics: ignitability, toxicity, corrosivity, or reactivity.

Petro or other non-perc solvent dry-cleaning wastes are not a listed hazardous waste but are potentially hazardous because they may be considered ignitable. A waste is ignitable if it has a flash point\* of lower than 140° F (consult the safety data sheet), readily causes fires and burns so vigorously that it creates a hazard, or is an ignitable compressed gas or an oxidizer as defined by Department of Transportation (DOT) regulations. It would have the waste code D001. Even if your dry-cleaning solvent isn't ignitable, some additives or sprays that may contain perc or other chlorinated solvents may cause your waste to become hazardous. Avoid these additives. Otherwise, you may need to handle your waste as hazardous waste.

\* The lowest temperature at which vapors above a volatile combustible substance ignite in air when exposed to flame.

To Hazardous wastes generated by most dry cleaners include, but are not limited to —

- still bottoms
- filter cartridges
- separator water
- that may contain residual solvents
- Lint and spent carbon
- dry-cleaning wastewater
- partially empty solvent containers or drums that may contain residual solvents

### Shipping Waste Off Site

The three most important things to remember when shipping hazardous waste off site are to:

1. choose a reputable hauler and facility with EPA ID numbers (hauler or transporter must also be registered with KDHE)
2. package and label all waste appropriately
3. prepare a hazardous waste manifest (make sure your copies are readable)

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

You must ensure that your transporter and waste facility meet applicable state and federal regulations. Disposal facilities must have permits issued by EPA or the state in which the facility is located. Under federal law, you may use only authorized hazardous waste transporters and disposal facilities that have been assigned EPA identification numbers.

The hauler you choose will transport your waste, and the waste management facility will be its final destination. But remember, you are still responsible for the waste you produce.

**REMEMBER** — Discharge of dry-cleaning wastewater to the ground or sewer is prohibited in Kansas.

### *Hazardous Waste Generator Categories*

Kansas regulations define four categories of hazardous waste generators: conditionally-exempt small quantity generator (CESQG), Kansas small quantity generator (KSQG), and small or large quantity generator (SQG or LQG). As a CESQG, you may not be subject to hazardous waste notification or reporting requirements. However, dry-cleaner hazardous wastes in any quantity must be managed using specific hazardous waste management standards. Remember, even if you aren't subject to the hazardous waste reporting requirements, you must still register with the KDHE Bureau of Remediation as explained on page 17.

You must determine your generator category to determine which waste regulations apply to you. Your facility may change its status from one category to another, depending on how much waste it generates in a given period. To determine your hazardous waste generator category, count all quantities of hazardous waste generated each month that you store on site, package and transport off site, place directly in a regulated on-site treatment or disposal unit, and generate as distillation still bottoms or sludge removed from product tanks.

Do not count wastes that are:

- specifically exempt (e.g., used oil that is recycled)
- less than 3% of content left in the bottom of a container that has been otherwise completely emptied by conventional means such as pouring or pumping
- reclaimed continuously on site without storing (However, count residue removed from recycling apparatus and spent cartridge filters.)
- managed in an elementary neutralization unit, an enclosed treatment unit, or a wastewater treatment unit, or
- discharged directly to a publicly owned treatment works (POTW) without being stored

Regardless of your generator category, you may not dispose of any quantity of hazardous waste by dumping it on the surface of the ground or into surface waters, burying it at an unpermitted site, or using waste such as a solvent to kill weeds.

Hazardous waste monthly generation rate	Hazardous waste generator category
< 55 lbs.	CESQG
≥ 55 lbs. and ≤ 220 lbs.	Kansas SQG (or KSQG)
220 lbs. and < 2,200 lbs.	SQG
≥ 2,200 lbs.	LQG



# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

### *Requirements for Hazardous Waste Generators*

Some petro or other non-perc solvent dry cleaners fall into the CESQG or KSQG categories. If a KSQG, SQG, or LQG, you are subject to several regulations, including obtaining an EPA identification number, preparing a manifest for all off-site shipments of hazardous waste, and meeting emergency preparedness requirements. The following are typical KSQG requirements. If you think you may be classified as an SQG or LQG, contact SBEAP at 800-578-8898 or KDHE at 785-296-1600 for details of your requirements. More detailed requirements for each generator category are summarized in the Hazardous Waste Generator Handbook available at [www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf](http://www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook.pdf).

### **KSQG Requirements**

1. Make a written determination of which wastes generated by the facility are hazardous. **Note that most non-perc dry cleaners do not generate hazardous waste unless their solvent is contaminated with a hazardous waste.** Using your knowledge of process and the solvent SDS, fill out the hazardous waste determination form located at the back of the compliance calendar.
2. All hazardous wastes must be managed by treatment on site, or sent off site to a commercial treatment, storage, or disposal (TSD) facility, or to a facility designated for recycling.
3. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE. The notification must be updated whenever the information submitted on the original form changes. This form can be downloaded at [www.kdheks.gov/waste/forms/hazwaste/gen500-8700-12.pdf](http://www.kdheks.gov/waste/forms/hazwaste/gen500-8700-12.pdf) or call 785-296-1600 for the most recent edition of the notification form.
4. Prepare a manifest or tolling agreement for all shipments of hazardous wastes that are transported off site for treatment, recycling, storage or disposal. Your commercial hazardous waste vendor will be able to provide the electronic or paper manifest or tolling agreement.
5. Prepare or work with your vendor to obtain a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste.
6. Package, label, mark and placard all shipments of hazardous waste in accordance with pre-transportation requirements contained in K.A.R.28-31-4(e). Your vendor may offer this service.

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

## Hazardous Waste Regulations

7. Prepare and maintain the following records:

- a copy of each manifest signed by the designated facility to which waste was sent and a copy of any tolling agreements for wastes shipped to a recycling facility (the signed manifests must be maintained for three years from the date waste was shipped off site)
- manifest exception reports for three years
- copies of LDR records for three years from the date waste was last shipped off site
- determination documents and related analyses for three years from the date waste was last shipped off site
- inspection records for three years, although the BER requires you keep records for a minimum of five years

8. Meet the following storage requirements for hazardous waste containers:

- mark or label each container with the words “Hazardous Waste” and accumulation start date
- maintain containers in good condition
- use container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes
- keep containers closed except when adding or removing waste
- inspect each container storage area monthly when waste is present (also suggested when waste is not present) and maintain a written record of each inspection (Note: BER requires weekly inspections for dry cleaners.)

9. If you have hazardous waste storage tanks, see the Hazardous Waste Generator Handbook for tank storage requirements.

10. Meet the following preparedness and prevention requirements:

- properly maintain the facility to minimize releases of hazardous waste
- provide appropriate communication, alarm system, or telephone or two-way radio
- provide fire extinguishing and spill-control equipment
- maintain and test all required equipment to ensure proper operation
- provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment
- maintain aisle space sufficient to allow passage of personnel and fire, spill-control, and decontamination equipment services, make arrangements with local hospital, police department, fire department, and any emergency response team to familiarize them with facility layout and hazards involved with wastes generated (such arrangements should be documented)
- as appropriate for type of waste handled and potential need for their emergency services, make arrangements with local hospital, police department, fire department, and any emergency response team to familiarize them with facility layout and hazards involved with wastes generated (such arrangements should be documented)

# PETROLEUM (PETRO) AND OTHER NON-PERC SOLVENT DRY CLEANERS

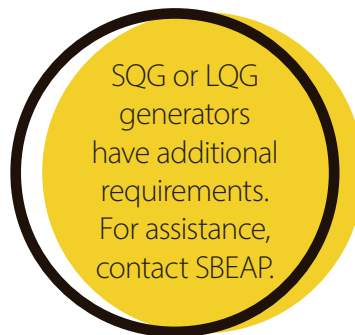
## Hazardous Waste Regulations

11. Meet the following emergency preparedness and training requirements:

- designate emergency coordinator who is on the premises or on call at all times to coordinate emergency response measures
- post name and phone number of the emergency coordinator; phone number of the fire department; and location of fire extinguishers, spill-control equipment, and fire alarms next to one telephone that is accessible during an emergency
- ensure all employees are thoroughly familiar with proper waste handling and emergency procedures
- carry out appropriate response to any emergency that arises

12. Before April 1 of each year, submit to KDHE the annual monitoring fee of \$100. Note that this is separate from the dry-cleaner registration fee.

13. Report all international shipments of hazardous waste to KDHE and EPA.



# LESS-TOXIC SOLVENT OPTIONS

Besides wet cleaning, which is a basic laundering alternative to dry-cleaning, other dry-cleaning methods or newer technologies will help dry cleaners reduce emissions by avoiding use of chlorinated solvents or other hazardous solvents. Decreased emissions and toxicity equate to decreased regulatory burden, costs and liabilities. With the exception of wet cleaning, which uses no hazardous chemicals and only water as a solvent, other petro and non-perc solvent methods or technologies may offer reduced regulatory burden but are still regulated under CAA, DERA and RCRA. In Kansas, wet cleaners are the only professional cleaners exempt from registration, while use of other petro and non-perc solvents still requires compliance with dry-cleaner regulations and payment of fees and surcharges.

The following are a few examples of other possible options you may wish to consider. Additional dry-cleaning industry resources are available on our website at [www.sbeap.org](http://www.sbeap.org) and National SBEAP website at [www.nationalsbeap.org/content/dry-cleaners](http://www.nationalsbeap.org/content/dry-cleaners).

## **Wet cleaning**

Wet or aqueous cleaning uses water and specialized detergents in sophisticated computerized machines which control the temperature and agitation levels to gently clean garments that would traditionally be “dry cleaned.” The environmental benefits are considerable. With wet cleaning, there is no hazardous chemical use, no air pollution, and no water or soil contamination. The only environmental concern is an increased use of water. There are NO regulatory burdens related to wet cleaning at facilities that do 100% wet cleaning. Professional wet cleaning technology has improved since its inception and has been demonstrated to be a technically viable and commercially feasible substitute for perc dry cleaning.

## **GreenEarth® D5 solvent**

This dry-cleaning method uses liquid silicone (decamethyl cyclopentasiloxane or D5). D5 solvent is chemically inert, which means it does not interact with textiles or dyes during the cleaning process. D5 is odorless and does not leave a chemical smell on

clothes. It has a low surface tension and allows for quick wetting of fibers, and in combination with a density close to water, helps remove insoluble soils with proper mechanical action. Compared to perc, the regulatory burden is generally less, but still regulated in Kansas as a dry-cleaning solvent.

## **DF-2000™ fluid**

Dry-cleaning fluid 2000, known as DF-2000, is a hydrocarbon solvent with a flash point above the 140° F ignitability thresholds. It can provide safe, effective, odorless cleaning and one document indicates its cleaning performance is comparable to perc. Similar to D5 solvent, the regulatory burden is generally less, but still regulated in Kansas as a dry cleaning solvent.

## **Carbon dioxide (CO2)**

CO2 dry-cleaning is a sub-critical, carbon-dioxide-based cleaning process that has been developed for use by commercial and retail dry cleaners. CO2 is a non-flammable, non-toxic, colorless, tasteless, odorless naturally occurring gas that, when subjected to pressure, becomes a liquid solvent. Regulatory burdens related to use of this technology are generally less as compared to perc, but still regulated in Kansas as a dry-cleaning solvent.

## **SolvonK4 (formaldehyde dibutyl acetal)**

The SystemK4 is a recently available commercial dry cleaning technology that uses SolvonK4 as the solvent. Although there are machines that are designed for use with System K4, SystemK4 can also operate in equipment designed for hydrocarbon or GreenEarth® solvents after some retrofit. SolvonK4 (formaldehyde dibutyl acetal) is considered a VOC and requires an air permit.

## **Rynex™ (Propylene Glycol Ether)**

Rynex™ (Rynex3) is an organic and biodegradable solvent with low volatility and a high flash point. It is considered a VOC and requires an air permit. Rynex3 can be used in most hydrocarbon machines with some temperature and timing adjustments.

# GLOSSARY

## **Biweekly inspection**

Inspections conducted on 14-day intervals.

## **Carbon adsorber**

A bed of activated carbon through which an air-perchloroethylene gas- vapor stream passes, and which adsorbs the perchloroethylene on the carbon. Carbon-adsorption (sniffer) systems can handle high airflows with low solvent concentrations and reduce solvent vapors in exhaust by 95 percent. Carbon beds range in size from 100 to 1,000 pounds (45 to 455 kilograms) of activated carbon.

## **Cartridge filter**

A separate filter unit containing both filter paper and activated carbon that traps and removes contaminants from dry-cleaning solvent, together with the piping and ductwork used in the installation of this device (part of the carbon adsorber).

## **Colorimetric tube**

A glass tube (sealed before use) containing material impregnated with a chemical that is sensitive to perchloroethylene and designed to measure the concentration of perchloroethylene in the air.

## **Construction**

The on-site fabrication, erection, or installation of a dry-cleaning system subject to the NESHAP. This does not include removal of existing equipment from one location to another, nor the sale of equipment to a new owner unless modifications are made that meet the definition of reconstruction below.

## **DERA (Drycleaner Environmental Response Act):**

Dry-cleaning regulations administered by the KDHE Bureau of Environmental Remediation.

## **Distill**

The process of heating a mixture to separate the perchloroethylene from water and waste organic matter.

## **Diverter valve**

This valve prevents air drawn into the dry-cleaning machine from passing through the refrigerator condenser when the door of the machine is open.

## **Dryer**

A machine used to remove dry-cleaning solvent from articles of clothing or other textile or leather goods, after washing and removing excess solvent, together with the piping and ductwork used in the installation of this device.

## **Enhanced LDAR**

Enhanced Leak Detection and Repair program requires facilities to perform vapor leak checks on a monthly basis using a halogenated hydrocarbon detector or perc gas analyzer, depending upon the source designation. Perceptible leak checks shall also be continued weekly or bi-weekly, depending upon the source designation.

## **Existing source**

A source that uses machines installed before December 9, 1991.

## **Free-phase solvent**

Solvent that is not suspended or dissolved in the dry-cleaning wastewater.

## **New source**

A source that uses machines installed on or after December 9, 1991.

## **PCE**

An abbreviation for perchloroethylene or perc.

## **Perc**

PCE or perchloroethylene. Sometimes referred to as tetrachloroethylene.

## **Perceptible leak**

A leak you can see, feel, or smell. Inspection for vapor leaks using an approved detector or analyzer will suffice for perceptible leak inspections.

# GLOSSARY

## **Petroleum (petro) or other non-perc solvent dry cleaner**

A dry-cleaning facility that uses petro or other non-perc solvent in a combination of washers, dryers, filters, stills, and settling tanks.

## **Reconstruction**

When any component of the dry-cleaning system is replaced, and the fixed capital cost of the new component exceeds 50 percent of the fixed capital cost that would be required to construct a new comparable source.

## **Refrigerated condenser**

A vapor-recovery system to which an air-perchloroethylene gas-vapor stream is routed and the perchloroethylene is condensed by cooling the gas-vapor stream. Refrigerated condensers recover solvent emissions by chilling the air stream below the dew point, causing the solvent and water vapor to condense.

## **Secondary containment**

A container, berm, or dike that holds another container of hazardous waste or material. It must be capable of catching all spills or leaks from the primary container.

## **Separator**

A device that boils (or evaporates) the water that has been condensed and separates it from the air-perc vapor exhaust stream.

## **Separator water**

Regulated wastewater that results when it is separated from the air-perc vapor stream.

## **Settling tank**

A container that uses gravity to separate oils, grease, and dirt from dry-cleaning solvent, together with the piping and ductwork used in the installation of this device.

## **Solvent filter**

A discrete solvent filter unit containing a porous medium that traps and removes contaminants from dry-cleaning solvent, together with the piping and ductwork used in the installation of this device.

## **Solvent-recovery dryer**

A class of dry-cleaning dryers that employ a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.

## **Still**

A device used to volatilize, separate, and recover dry-cleaning solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.

## **Tetrachloroethylene**

Another name for perchloroethylene (perc).

## **Transfer system**

Any system in which washing and drying are performed in different machines. This may be a washer and dryer, washer and reclaimer, or dry-to-dry machine and reclaimer. Dry-to-dry machines are considered to be a transfer system if clothes are transferred to different machines. These systems should no longer be used.

## **Washer**

A machine that agitates fabric articles in a dry-cleaning solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

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