

U.S. EPA REQUIREMENTS FOR PERC DRYCLEANERS

September 2013

The U.S. Environmental Protection Agency (EPA) revised the National Emission Standards for Hazardous Air Pollutants (NESHAP) for perchloroethylene (perc) drycleaners on July 13, 2006. Several of the requirements of the revised NESHAP go beyond what is required under the NYS Department of Environmental Conservation's (NYSDEC) Part 232 regulation for perc drycleaners that went into effect in 1997. This fact sheet summarizes these new requirements.

What Are The New Requirements?

The most significant of the changes prohibits new perc drycleaning machines from operating in residential buildings. In addition, existing perc drycleaning operations will have to stop cleaning with perc or move to a non-residential building by 2020. Please note that moving a perc machine requires a variance from the NYSDEC. Another option is to convert to an alternative cleaning solvent.

Why Were These New Requirements Passed?

The EPA regulation for perc drycleaning was originally issued in 1993. In December, 2005, the EPA indicated that the agency "evaluated the remaining risk to public health and the environment following implementation of the 1993 technology-based rule and is proposing more stringent standards in order to protect public health with an ample margin of safety."

What Do I Have To Do?

New Perc Drycleaning Machines Located in Residential Buildings

- ✓ Drycleaning machines located in residential buildings and installed after July 27, 2006, may not use perc.
- ✓ Perc drycleaning machines installed in residential buildings between December 21, 2005 (the date of the proposed rule) and July 13, 2006 (when the final rule was issued) must eliminate perc use by July 27, 2009.

Existing Machines in Residential Buildings

- ✓ All perc drycleaning machines installed in residential buildings before December 21, 2005 (the date EPA proposed the NESHAP revisions) must stop operation by December 21, 2020.
- ✓ Perc dry cleaning plants located in a residential building will not be able to replace their existing perc machine when it wears out with another perc machine. When your machine needs to be replaced, you must switch to an alternative solvent or move to a non-residential building.
- ✓ Both of these compliance options require a new, modified or amended registration certificate or operating permit from the NYSDEC.

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New Monitoring Requirement

Recently Purchased Machines

If a new 4th generation perc machine was installed after December 21, 2005, at any new or existing drycleaning facility, it must be checked weekly to verify that the perc vapor level in the drum at the end of the cycle is below 300 parts per million (ppm). Drycleaners will need to purchase a colorimetric pump testing device to perform these measurements.

How Do I Prove that I Am Complying?

There is one additional reporting requirement in the new standards which applies to NYS drycleaners. This will be a one-page "Notice of Compliance Status" form that you will receive in 2007. It must be returned by registered mail to EPA and NYSDEC, postmarked by July 28, 2008. NYS drycleaners are already required to report most of the information under Part 232. *The following information must be provided, and the form must be signed by a responsible official who shall certify its accuracy:*

- (1) The name and address of the owner or operator;
- (2) The address (that is, physical location) of the drycleaning facility;
- (3) If they are located in a building with a residence(s), even if the residence is vacant at the time of this notification;
- (4) If they are located in a building with no other tenants, leased space, or owner occupants;
- (5) The yearly PCE solvent consumption;
- (6) Whether or not they are in compliance with each applicable requirement of the National Perchloroethylene Air Emissions Standards Drycleaning Facilities, 40 CFR 63.320.

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6 NYCRR Part 232

Perchloroethylene Drycleaning Facilities

Leak Detection Inspections & Self-Monitoring

September 2013

On May 15, 1997, the New York State Department of Environmental Conservation (DEC) promulgated a major revision to the state regulation affecting perchloroethylene (perc) drycleaners, Part 232. One section of this regulation requires owners and operators to inspect their equipment for liquid and vapor leaks every week, using a checklist supplied by DEC. The items to be checked under Part 232 are virtually identical to leak checks required under the National Emission Standard for Hazardous Air Pollutants (NESHAP) for drycleaning. This fact sheet will help you to comply with both state and federal requirements.

Leak Detection Equipment

The weekly inspection for leaks must use one or more of the following, properly calibrated, devices or methods:

- a halogenated-hydrocarbon detector,
- a portable gas analyzer,
- an air sampling pump, colorimetric tube, *or*
- an alternative method approved by DEC.

What to Inspect

Every week, **while the drycleaning system is operating**, the trained operator must inspect all of the following components for perceptible liquid and vapor leaks and for proper operation, and record the results on the DEC checklist (*NOTE: additional components are found on the checklist*):

<i>Hose and pipe connections</i>	<i>Water separators</i>	<i>Hazardous waste containers</i>
<i>Pumps</i>	<i>Stills</i>	<i>Button and lint traps</i>
<i>Door gaskets & seatings</i>	<i>Solvent tanks</i>	<i>Water separators</i>
<i>Filter gaskets & seatings</i>	<i>Cartridge housings</i>	<i>Muck cookers</i>
<i>Stills</i>	<i>Exhaust dampers</i>	<i>Diverter valves</i>

IMPORTANT! *Make sure to read and understand your machine operating manual well enough to know when the various components listed above are engaged in circulating the liquid perc or the air/perc vapor stream so that if a leak exists, it can be detected. If the component/part is not pressurized, activated, or up to operating temperature, checking for leaks will be inconclusive at best. Completed checklists must be kept on-site for five years from the date of the inspection.*

Leak Detection Instruments

The most common device used for leak detection is the halogenated-hydrocarbon detector that beeps loudly and rapidly in the presence of a perc leak. Most of these devices are able to detect leaks at concentrations over 20 ppm. They are simple to use and require no calibration. Typically, the operating instructions require only that the device be turned on in an area free of perc (i.e. outdoors) in order to have the detector set at the greatest sensitivity (able to detect the lowest possible leak levels). The tip of the detector is placed within one to two inches of the area being checked and **moved slowly** back and forth before moving on to the next area, it must be **moved slowly to work properly**.

The sensing tip can become fouled and may need to be replaced if a heavy vapor or liquid leak is detected with the device. Read the operating manual carefully and change the batteries regularly.

If a Leak Is Detected

If the operator detects any liquid leak, vapor leak, or malfunction, it must be noted on the checklist and repaired immediately, if at all possible. If the leak cannot be repaired upon detection, the leaking component should be physically marked or tagged, so that it is readily observable by an inspector. The leak should be repaired within 24 hours, unless repair parts are unavailable. If the parts are unavailable, the parts must be ordered within two working days of detecting the leak. The parts must be installed within *five working days* of receipt.

Equipment that has not been repaired within 15 working days of the leak detection must not be operated until the leak is repaired, unless the owner or operator receives a leak-repair extension from the DEC regional office. The phone number for your regional office should appear on your dry cleaning facility registration certificate. Once a repair is complete, the operator must record the completion date on the checklist.

Any fugitive perc emission concentration greater than 50 ppm emanating from any part of the drycleaning system is a violation. The only exception is for short-term maintenance operations involving the opening of drycleaning system components for inspection or repair.

Refrigerated Condenser

Refrigerated condensers must be operated following the manufacturers specifications. Operators must ensure that exhaust gases and the air-vapor stream at the outlet are maintained at temperatures $\leq 45^{\circ}\text{F}$. Check the coolant pressure gauges to see if the pressures are within manufacturers specifications. **

3rd Generation Machines Equipped with a Door Fan

The operator must also conduct the following *weekly* inspections and note the results on the same checklist:

- Test carbon adsorber exhaust vents using **colorimetric detector tubes or portable halogen detectors**. These adsorbers must be controlled to a design emission standard of 5 ppm perc with an in-use maximum standard of 20 ppm. **
- Check the inward air velocity of a loading door fan with a portable velometer or equivalent device.
- Minimum inward air velocity must be 100 feet per minute.

Colorimetric testing devices consist of a pump and a sealed glass tube containing a chemical reagent that changes color when exposed to a specific chemical. The tips of the sealed glass tube are broken and inserted like a straw into the end of the pump that draws an air/vapor sample from the vent coming out of the carbon adsorber. They are accurate and fairly simple to use. These same instruments are used by DEC-registered inspectors during the required annual compliance inspections at plants operating 4th generation machines. These machines must be operated and maintained such that the perc vapors remaining in the drum/wheel at the end of the cycle when the clothes are being removed from the machine do not exceed 300 ppm. If you need to use this instrumentation regularly, or are considering using one for your own specific reasons, please contact the SBEAP for additional advice on purchasing and using this type of instrument.

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6 NYCRR Part 232: Perchloroethylene Drycleaning Facilities Recordkeeping & Reporting Requirements

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In the spring of 1997, the New York State Department of Environmental Conservation (DEC) promulgated a major revision to Part 232, the state regulation affecting perchloroethylene (perc) drycleaners. This revised regulation became effective as of May 15, 1997. One section of this regulation requires owners and operators to maintain detailed records of their facility's operations. These records must be kept on-site for five years and made available upon request to DEC.

This fact sheet provides a **general overview of the recordkeeping tasks that owners and operators must perform under Part 232**. Much of the information that owners and operators must record under Part 232 is the same as that required under the USEPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) for perc drycleaning.

Maintenance Records

Operators of drycleaning facilities must record the following information:

- The date of maintenance on any air cleaning component or exhaust system, such as the regeneration and/or replacement of the carbon in a carbon adsorber.
- The number of loads between regenerations, cleaning and replacement of lint filters and carbon adsorber pre-filters, and repair or replacement of exhaust fans.
- The amount of activated carbon in carbon adsorbers (dry weight in pounds).
- The date of maintenance of drying sensors.
- The date and volume of hazardous waste shipments.
- The dates when the carbon cartridge in a perc-contaminated wastewater treatment unit are replaced.
- The date, duration, and nature of any malfunction, spill, incident, or emergency response at the facility.

Purchase Records *

Owners or operators of drycleaning facilities must keep records of all perc purchases. On the first day of each month, the owner or operator must record the volume of perc purchased in the previous month in a log. These monthly purchases must be added to the purchases for the previous 11 months, to generate a running 12-month total of perc purchases. The process goes like this:

- (1) Let's say it's October 1, 2007. Record perc purchases for September 2007 in the log.
- (2) Add the last 12 months of perc purchases, in this case purchases from October 2006 through September 2007.
- (3) The result is the yearly perc purchases for the previous 12 months.
- (4) On November 1, 2007, record perc purchases for October 2007, and add the perc purchases from November 2006 through October 2007 to get the new 12-month total, and so on.

** If no perc is purchased in any given month, record "0" for that month.*



Leak Detection Records *

Each owner or operator of a drycleaning facility must record the results of all leak detection inspections on a checklist supplied by DEC, and keep these records on-site for five years. Refer to the SBEAP's fact sheet on leak detection for specific information regarding procedures and what must be inspected. All of the following information must be recorded:

- The dates when the drycleaning system components are inspected for perceptible leaks and the name or location of any leaking components.
- The date, time, and results of colorimetric detector tube monitoring, if a carbon adsorber is used for primary or secondary emission control.
- The date, time, and results of monitoring of refrigerant pressure gauges or outlet temperature sensor for refrigerated condensers.
- The dates of repair and records of written or verbal orders for repair parts to demonstrate compliance with the inspection and testing requirements.

Other Records

Each owner or operator of a drycleaning facility must retain on-site a copy of the design specifications and the operating manuals for each drycleaning system and each emission control device located at the dry-cleaning facility.*

Owners and operators must also retain copies of the required annual compliance inspection reports.

Compliance Reports *

New facilities, or existing facilities that are installing new equipment, must submit a compliance report to the DEC Regional Office and the USEPA within 30 days of commencing operation, certifying their compliance with the federal NESHAP requirements.

Reporting forms for owner/operators are available on the SBEAP website, or they can be obtained by contacting either the SBEAP through our hotline, or the DEC. These reports include the following information:

- The name and address of the owner or operator.
- The address of the drycleaning facility.
- An estimate of the annual perc consumption.
- Whether the facility is located in a building with residences.
- A description of the machines' control devices.
- A statement verifying compliance with each applicable requirement under the federal NESHAP, including equipment standards, test methods and monitoring, and recordkeeping and reporting.
- A statement certifying that all information contained in the statement is accurate and true.

* Indicates this paragraph or section is also an existing requirement under the Federal NESHAP.

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6 NYCRR Part 232: Perchloroethylene Drycleaning Facilities Vapor Barriers & General Exhaust Systems

September 2013

In the spring of 1997, the New York State Department of Environmental Conservation (DEC) issued a major revision to Part 232, the state air pollution control regulation that applies to all new and existing perchloroethylene (perc) drycleaners.

This fact sheet provides a **general overview of the requirements for vapor barriers and general exhaust systems contained in this regulation** that became effective May 15, 1997. Additional fact sheets and technical information can be accessed on our website or by calling the Small Business Environmental Assistance Program (SBEAP) at the toll-free number listed below; all of our services are free and confidential.

Mixed-Use Buildings

Part 232 requires all facilities in mixed-use buildings (sharing a common wall, floor, or ceiling with residence or business) to install vapor barriers and general exhaust ventilation systems.

Part 232 defines co-located as sharing a common wall, floor, or ceiling with a residence or business. The purpose of this system is to remove the small amounts of perc that can be released into the building during normal operations while also containing any perc vapors released during repair work or malfunctions. These releases are commonly referred to as “fugitive emissions,” or emissions that escape the control systems in place on the dry cleaning machine. New mixed-use commercial facilities must install the vapor barrier and exhaust system around the dry cleaning system before startup and opening for business. *Stand-alone drycleaning facilities are not required to install vapor barriers and general exhaust systems.*

Please note that no new perc drycleaning machines can be installed in a residential building after July, 27, 2006 (see fact sheet titled: U.S. EPA NESHAP Requirements for Drycleaners for additional information).

Vapor Barrier Requirements

The vapor barrier must at least enclose the drycleaning equipment, including third generation machines with add-on carbon adsorbers or “sniffers”. Other equipment, such as the spotting table, may also be enclosed within the vapor barrier. The vapor barrier must be constructed of materials impermeable to perc vapors, such as:

- Glass (sliding glass doors)
- Structoglas, a fiberglass reinforced plastic panel product manufactured by Crane Composites Company
- Sheet metal
- Epoxy coatings approved by DEC - please call the SBEAP for a list of approved coatings
- Metal-foil-faced composite board, and
- Polyvinyl chloride (PVC) sheet 22 mil (0.022 inches) thick.

Other equivalent materials may be used once their impermeability to perc is demonstrated and approved by DEC. All joints and seams in the vapor barrier must be sealed. *The entry door must remain closed except when a person is entering or exiting the enclosure.*

General Exhaust Ventilation System Requirements

The area enclosed within the vapor barrier must be properly ventilated to remove/exhaust the fugitive emissions of perc that accumulate. Part 232 defines a general ventilation system as “a mechanical exhaust ventilation system consisting of fresh air makeup inlets and one or more exhaust fans in a drycleaning facility.” This system must be completely separate from the ventilation system(s) for the remainder of the building. The general exhaust ventilation system must be operated whenever the drycleaning machine(s) is operating and during any maintenance operations. Emissions must be exhausted to the outside air. The system must be designed and operated to maintain a negative pressure at each opening in the enclosure whenever the drycleaning machine(s) is operating and be capable of at least one complete air change every five minutes. The SBEAP can perform the required calculations to ensure the exhaust fan is properly sized for the room.

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Plans for the vapor barrier/enclosure and exhaust system must be included with the facility registration application that is submitted to the Air Pollution Control Engineer at your Regional DEC Office. When constructing a new facility, the owner and/or operator may not install or operate the drycleaning and vapor barrier systems until a registration certificate is received from the DEC. The DEC will generally notify the owner/operator on the acceptability of the registration application within 30 days of receipt at the Regional Office.

Some local regulatory authorities, such as building departments and environmental agencies, may require facilities to obtain building permits and approvals prior to constructing vapor barriers and exhaust systems. These authorities may also limit the materials you may use to construct the vapor barrier. Check with your local authorities for specific requirements.

Room Enclosure/Exhaust System Tips

The SBEAP suggests that drycleaning facility owners and managers consider the following tips when planning their vapor barrier enclosure and general exhaust ventilation system:

- Seek a reputable contractor (one with ventilation expertise).
- Always consider having a qualified professional design it and draw up plans, even if you plan to build it yourself.
- Enclose as much space as possible so that you can;
 - enclose the spotting table and waste storage within the vapor barrier, and
 - allow for easy servicing and repair of your machine (i.e. refrigeration coils).
- Consider a two speed fan to vary air flow during warm and cold months.
- If you do not use sliding glass doors, have hinged doors open outward and equip them with a self-closing spring.
- Wire lights and ventilation fan to the same switch.
- Locate the fresh air intake near the front of the machine and the exhaust vent near the rear of the machine.
- For cold-weather comfort, use moveable louvers on the opening for the intake air vent so you can redirect intake air drawn from outdoors within the room.

Ventilation and Vapor Barrier Guidebook

A more comprehensive and detailed guide on this subject, developed by the SBEAP, is also available. This guidebook contains design and performance information and tips gathered from extensive discussions with installers, drycleaners and the DEC. To obtain a free copy, contact the SBEAP by phone at the number below:

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