

Section 38 - Petroleum Solvent Dry Cleaners.

1/11/93

a. Applicability.

1. This Section applies to petroleum solvent dry cleaning facilities.
2. Any petroleum solvent dry cleaning facility that consumes less than 123,000 liters (L) (32,500 gallons [gal]) of petroleum solvent per year is subject only to the requirements of paragraph (e)(1) of this Section. Any facility that becomes or is currently subject to all of the provisions of this Section by exceeding this applicability threshold will remain subject to these provisions even if its consumption of petroleum solvent later falls below the applicability threshold. Any facility that is currently subject to a state or federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.
3. This Section does not apply to facilities that use only petroleum-based solvents that contain chlorine.

b. Definitions. As used in this Section, all terms not defined herein shall have the meaning given them in the November 15, 1990 Clean Air Act Amendments, or in Section 2 of this regulation.

"Filter cartridge" means a replaceable filter unit containing filtration paper and carbon or carbon only.

"Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent-laden waste standing open to the atmosphere.

"Petroleum solvent cartridge filtration system" means a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent.

"Petroleum solvent dry cleaning facility" means a facility engaged in the cleaning of fabrics, clothing, and other articles in a petroleum solvent by means of one or more washes in the solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. Equipment at the facility includes, but is not limited to, any petroleum solvent washer, dryer, solvent filter system, settling tank, vacuum still, and any other container or conveyor of petroleum solvent.

"Settling tank" means a container, and any associated piping and ductwork, that gravimetrically separates oils, grease, and dirt from petroleum solvent.

"Solvent filter" means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in installing this device.

"Solvent recovery dryer" means a class of dry cleaning dryers that employs 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 installing this device.

"Standard dryer" means a device that dries dry-cleaned articles by tumbling in a heated airstream.

"Still" means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in installing this device.

"Washer" means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in installing this device.

c. Standards.

1. Fugitive emissions. The owner or operator of a petroleum solvent dry cleaning facility subject to this Section shall ensure that:
 - i. There are no perceptible leaks from any portion of the equipment.
 - ii. All washer lint traps, button traps, access doors, and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except when opening is required for proper operation or maintenance.
2. Leak repair. The owner or operator of a petroleum solvent dry cleaning facility subject to this Section shall repair any perceptible leaks in any portion of the dry cleaning equipment within 3 working days after the leak is detected. If necessary repair parts are not on hand, the owner or operator shall order these parts within 3 working days and repair the leaks no later than 3 working days after the parts arrive.
3. Dryers. The owner or operator of a petroleum solvent dry cleaning facility

subject to this Section shall do one of the following:

- i. Limit the volatile organic compound (VOC) emissions from each standard dryer to 1.6 kilograms (kg) (3.5 pounds [lb]) VOC per 45 kg (100 lb) dry weight of articles dry cleaned.
 - ii. Install, maintain, and operate a solvent-recovery dryer such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of no greater than 50 milliliters per minute (ml/min) (0.013 gallons per minute [gal/min]) is attained.
4. Filtration systems. The owner or operator of a petroleum solvent filtration system subject to this Section shall do either paragraph (c)(4)(i) or (c)(4)(ii) of this Section:
 - i. Reduce the VOC content in filtration waste to 1 kg (2.2 lb) VOC per 100 kg (220 lb) dry weight of articles dry cleaned.
 - ii.
 - A. Install, maintain, and operate a cartridge filtration system according to the manufacturer's instructions.
 - B. Drain all filter cartridges in their sealed housings for 8 hours or more before removing them.
- d. Test methods and procedures.
 1. To be in compliance with paragraph (c)(3)(i) of this Section, each owner or operator of a petroleum solvent dry cleaning facility subject to this Section shall:
 - i. Calculate the weight of VOCs vented from the dryer emission control device calculated by using Methods 1, 2, and 25A (40 CFR, Part 60, **Appendix A**, July 1, 1992) with the following specifications:
 - A. Field calibration of the flame ionization analyzer with propane standards.
 - B. Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million (ppm) by volume concentration of propane to the response to the same ppm concentration of the VOCs to be measured.

- C. Determination of the weight of VOCs vented to the atmosphere by:
 - 1. Multiplying the ratio determined in paragraph (d)(1)(i)(B) of this Section by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record.
 - 2. Converting the ppm by volume value calculated in paragraph (d)(1)(i)(C)(1) of this Section into a mass concentration value for the VOCs present.
 - 3. Multiplying the mass concentration value calculated in paragraph (d)(1)(i)(C)(2) of this Section by the exhaust flow rate determined by using Methods 1 and 2.
 - ii. Calculate the dry weight of articles dry cleaned.
 - iii. Repeat paragraphs (d)(1)(i) and (d)(1)(ii) of this Section for normal operating conditions that encompass at least 30 dryer loads, which total not less than 1,800 kg (4,000 lb) dry weight and represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.
2. To determine initial compliance with paragraph (c)(3)(ii) of this Section, the owner or operator of a petroleum solvent dry cleaning facility shall:
- i. Verify that the flow rate of recovered solvent from the solvent-recovery dryer at the end of the recovery phase is no greater than 50 ml/min (0.013 gal/min) by:
 - A. Determining the appropriate location for measuring the flow rate of recovered solvent; the suggested point is at the outlet of the solvent-water separator.
 - B. Near the end of the recovery cycle, diverting the flow of recovered solvent to a graduated cylinder.
 - C. Continuing the cycle until a flow rate of solvent no

greater than 50 ml/min (0.013 gal/min) is reached.

D. Recording the type of articles dry cleaned and the length of the cycle.

ii. To determine initial compliance with paragraph (c)(3)(ii) of this Section, conduct the procedure in paragraph (d)(2)(i) for at least 50 percent of the dryer loads over a period of no less than 2 consecutive weeks.

3. To be in compliance with paragraph (c)(4) of this Section, the owner or operator of a petroleum solvent dry cleaning facility subject to this Section shall:

i. Calculate the weight of volatile organic compounds (VOCs) contained in each of at least five 1-kg (2.2-lb) samples of filtration waste material taken at intervals of at least 1 week, by employing ASTM D322-80 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation).

ii. Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period.

iii. Calculate the weight of VOCs contained in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

4. Compliance with paragraph (c) of this Section requires that each owner or operator of a petroleum solvent dry cleaning facility subject to this Section make weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible VOC vapor or liquid leaks.

e. Recordkeeping requirements.

1. The owner or operator of a petroleum solvent dry cleaning facility claiming exemption from this Section shall maintain records of annual solvent consumption in a readily accessible location for at least 5 years to document whether the applicability threshold in paragraph (a)(2) of this Section has been exceeded.

2. The owner or operator of a petroleum solvent dry cleaning facility subject to this Section shall maintain the following records in a readily accessible location for at least 5 years:

- i. Records of the weight of VOCs vented from the dryer emission control device calculated according to paragraph (d)(1)(i) of this Section.
 - ii. Records of the dry weight of articles dry cleaned for use in the calculations required in paragraphs (d)(1), (d)(2), and (d)(3) of this Section.
 - iii. Records of the weight of VOCs contained in the filtration waste samples required by paragraph (d)(3)(i) of this Section.
 - iv. Records of the weight of VOCs in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.
- f. Reporting requirements. The owner or operator of any facility containing sources subject to this Section shall:
 1. Comply with the initial compliance certification requirements of Section 5(a) of this regulation.
 2. Comply with the requirements of Section 5(b) of this regulation for excess emissions related to the control devices required to comply with paragraphs (c)(2), (c)(3)(ii), and (c)(4)(ii) of this Section. as well as any other State of Delaware exceedance reporting requirements.