

Annex A
TITLE 25. ENVIRONMENTAL PROTECTION
PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION
Subpart C. PROTECTION OF NATURAL RESOURCES
ARTICLE III. AIR RESOURCES
CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P. S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Alcohol—A chemical compound consisting of the hydroxyl (OH) group attached to an alkyl radical and having the general formula $[C_nH_{2n+1}OH]$ $C_nH_{2n+1}OH$, such as ethanol, n-propanol and isopropyl alcohol.

Alcohol substitute—Nonalcohol additives that contain VOCs and are used in the fountain solution including ethylene glycol and glycol ethers. Some additives are used to reduce the surface tension of water and others are added to prevent piling (ink build up).

* * * * *

As applied—

(i) The VOC and solids content of a coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent that is actually used to coat the substrate.

(ii) The term includes the contribution of materials used for in-house dilution of the coating.

(iii) FOR PURPOSES OF §§ 129.67a AND 129.67b (RELATING TO CONTROL OF VOC EMISSIONS FROM FLEXIBLE PACKAGING PRINTING PRESSES; AND CONTROL OF VOC EMISSIONS FROM OFFSET LITHOGRAPHIC PRINTING PRESSES AND LETTERPRESS PRINTING PRESSES) THE VOC CONCENTRATION OF AN INK, COATING, ADHESIVE, FOUNTAIN SOLUTION OR CLEANING SOLUTION AT THE TIME IT IS ACTUALLY USED ON A PRINTING PRESS.

As supplied—

(i) The VOC and solids content of a coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent as sold and delivered to the end user.

(ii) FOR PURPOSES OF §§ 129.67a AND 129.67b, THE VOC CONCENTRATION OF AN INK, COATING, ADHESIVE, FOUNTAIN SOLUTION OR CLEANING SOLUTION THAT IS PURCHASED FOR USE ON A PRINTING PRESS.

* * * * *

Batch—

(i) For purposes of § 129.67b [~~(relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses)~~], a supply of fountain solution OR CLEANING SOLUTION that is prepared and used without alteration until completely used or removed from the printing process.

(ii) The term [~~applies to either of~~] INCLUDES the following:

(A) A supply of fountain solution OR CLEANING SOLUTION prepared in a discrete amount.

(B) A supply of fountain solution that is continuously blended with an auto mix unit.

(C) A SUPPLY OF CLEANING SOLUTION THAT IS BLENDED AND DELIVERED TO A PRESS BY USE OF AN AUTOMATIC BLANKET OR ROLLER WASH SYSTEM.

* * * * *

CPDS—Certified Product Data Sheet—

(i) For purposes of wood furniture manufacturing operations under §§ 129.101—129.107 (relating to wood furniture manufacturing operations), documentation furnished by a coating supplier or an outside laboratory for a coating, strippable spray booth coating or solvent that provides the VOC content as pounds of VOC per pound of coating solids calculated from data measured using the EPA Reference Method 24 or an equivalent or alternative method. Batch formulation data may be used if it is demonstrated to the satisfaction of the Administrator of the EPA that the coating does not release additional VOC as reaction byproducts during the cure. The VOC content stated should represent the maximum VOC emission potential of the coating, strippable spray booth coating or solvent.

(ii) FOR PURPOSES OF PRINTING OPERATIONS UNDER § 129.67b, DOCUMENTATION FURNISHED BY AN INK SUPPLIER OR AN OUTSIDE LABORATORY FOR AN INK, FOUNTAIN SOLUTION, CLEANING SOLUTION OR SOLVENT THAT PROVIDES THE VOC CONTENT CALCULATED FROM DATA MEASURED USING THE EPA REFERENCE METHOD 24 OR AN EQUIVALENT OR ALTERNATIVE METHOD APPROVED BY THE DEPARTMENT. THE VOC CONTENT STATED SHOULD REPRESENT THE MAXIMUM VOC EMISSION POTENTIAL OF THE INK, FOUNTAIN SOLUTION, CLEANING SOLUTION OR SOLVENT.

* * * * *

CLEANING SOLUTION—A LIQUID SOLVENT OR SOLUTION USED TO REMOVE INK, INCLUDING DRIED INK, AND DEBRIS FROM THE OPERATING SURFACES OF A PRINTING PRESS AND ITS PARTS. THE TERM INCLUDES A BLANKET

WASH, IMPRESSION CYLINDER WASH, ROLLER WASH, METERING ROLLER CLEANER, PLATE CLEANER, RUBBER REJUVENATOR AND OTHER CLEANERS USED FOR CLEANING A PRESS, PRESS PARTS OR TO REMOVE DRIED INK OR COATING FROM AREAS AROUND THE PRESS.

* * * * *

[First installation date—For purposes of § 129.67a (relating to control of VOC emissions from flexible packaging printing presses) and § 129.67b, the first date of operation for a source or a control device. This date will not change if the source or control device is moved to a new location or when the control device is later used to control a new source.]

[* * * * *]

Flexible packaging—

(i) A package or part of a package, such as a bag, pouch, liner or wrap, the shape of which can be readily changed. Flexible packaging may be made of paper, plastic, film, aluminum foil, metalized or coated paper, metalized or coated film, or other material.

(ii) The term includes a shrink-wrap label or wrapper printed on or in-line with a flexible packaging printing press.

(iii) The term does not include folding cartons or other rigid packaging or self-adhesive labels.

Flexible packaging printing press—A printing press used for the production of printed flexible packaging materials using flexographic printing or rotogravure printing, or both.

* * * * *

Fountain solution—A mixture of water, volatile and nonvolatile chemicals and one or more additives that reduce the surface tension of the water so that the mixture spreads easily across the printing surface of a lithographic plate. The mixture wets the nonimage area so that the printing ink is maintained within the image area.

(i) Alcohols, specifically isopropyl alcohol, and alcohol substitutes, including ethylene glycol and glycol ethers, are the most common VOC additives used.

(ii) Nonvolatile additives include mineral salts and hydrophilic gums.

* * * * *

[Heatset dryer—A device used in a printing process to heat the printed substrate and promote the evaporation of ink oils.]

HEATSET—AN OPERATION IN WHICH HEAT IS REQUIRED TO EVAPORATE INK OILS FROM THE PRINTING INKS THAT ARE APPLIED TO THE SUBSTRATE.

Heatset ink—Printing ink that is set and dried with the use of heat.

* * * * *

Letterpress printing—A printing process in which the image area of the plate is raised relative to the nonimage area and the paste ink is transferred to the substrate directly from the image surface. The substrate can be fed to the press as either an individual sheet or a rolled web.

* * * * *

Lithographic plate—The [~~thin metal~~] plate used in lithographic or offset lithographic printing which has chemically differentiated image and nonimage areas so that the printing ink adheres to the image areas.

Lithographic printing—A printing process in which the image and nonimage areas are in the same plane on the surface of a [~~thin metal~~] lithographic plate. The image and nonimage areas are chemically differentiated; the image area is oil receptive and the nonimage area is water receptive. The substrate can be fed to the press as either an individual sheet or a rolled web.

* * * * *

NON-HEATSET—A LITHOGRAPHIC OR LETTERPRESS PRINTING PROCESS IN WHICH THE PRINTING INKS, INCLUDING VARNISHES, ARE SET AND DRIED BY ABSORPTION OR OXIDATION OF THE INK OILS RATHER THAN BY EVAPORATION WITH HEAT. THESE NON-POLYMERIZATION PROCESSES ARE ALSO KNOWN AS “COLDSET” PROCESSES. POLYMERIZATION PROCESSES INCLUDING THE USE OF AN INFRARED DRYER, ULTRAVIOLET CURING OR ELECTRON BEAM CURING ARE ALSO CONSIDERED NON-HEATSET OPERATIONS.

* * * * *

Offset lithographic printing—A printing process in which the image and nonimage areas are in the same plane on the surface of a [~~thin metal~~] lithographic plate and the image and nonimage areas are chemically differentiated. The ink film is transferred from the lithographic plate to an intermediary surface, typically a rubber-covered cylinder called a blanket, which in turn transfers the ink film to the substrate. The substrate can be fed to the press as either an individual sheet or a rolled web.

* * * * *

Paper, film or foil coating or paper, film or foil surface coating—Coatings applied in a continuous, uniform layer to paper, film or foil surfaces, and pressure-sensitive tapes, regardless of substrate. The coatings are applied to provide a covering, finish or functional or protective layer to the substrate, saturate a substrate for lamination or provide adhesion between two substrates for lamination.

- (i) The term includes coatings used in web coating processes on the following **substrates**:

* * * * *

(E) Flexible packaging, including coating of non-woven polymer substrates for use in flexible packaging, **if the coating is not applied on or in-line with a flexible packaging printing press.**

(F) [Miscellaneous] **Those used in miscellaneous** coating operations, including the following:

* * * * *

Printing press—The equipment used to apply words, pictures or designs to a sheet or continuous substrate of paper, plastic or other material. The equipment must include at least one printing work station. The following equipment, if present, is also considered part of the term:

- (i) One or multiple unwind or feed sections.**
- (ii) A series of individual work stations, which may include inboard and outboard work stations. A work station that employs another technology, including surface coating, is considered part of the printing press if the station is capable of printing or coating on the same substrate and if the work station is physically connected as part of the printing press.**
- (iii) A dryer associated with a work station.**
- (iv) A rewind, stack or collection section.**

* * * * *

Rotogravure printing—The application of words, designs and pictures to a substrate by means of a roll printing technique which involves an intaglio or recessed image area in the form of cells.

* * * * *

Sheet-fed printing—A printing process in which individual sheets of substrate are fed sequentially to the printing press.

* * * * *

Varnish—For purposes of § 129.67b, an unpigmented offset lithographic ink which is used or applied on an offset lithographic printing press in the same manner as [an] A PIGMENTED offset lithographic ink. The term includes a heatset varnish, sheet-fed varnish and [eoldset] NON-HEATSET varnish.

* * * * *

Web printing—A printing process in which continuous rolls of substrate material are fed to the printing press and rewound or cut to size after printing.

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CHAPTER 129. STANDARDS FOR SOURCES
SOURCES OF VOCs

§ 129.51. General.

(a) *Equivalency.* Compliance with §§ 129.52, 129.52a, 129.52b, 129.52c, ~~[and 129.54—129.73]~~ 129.54—129.69, 129.71—129.73 and 129.77 may be achieved by alternative methods if the following exist:

* * * * *

(3) Compliance by a method other than the use of a low VOC coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent ~~[or]~~, cleanup solvent, CLEANING SOLUTION, FOUNTAIN SOLUTION or ink which meets the applicable emission limitation in §§ 129.52, 129.52a, 129.52b, 129.52c, 129.67, 129.67a, 129.67b, 129.73 and 129.77 shall be determined on the basis of equal volumes of solids.

* * * * *

(6) The alternative compliance method is incorporated into a plan approval or operating permit, or both, reviewed by the EPA, including the use of an air cleaning device to comply with § 129.52, § 129.52a, § 129.52b, § 129.52c, § 129.67, § 129.67a, § 129.67b, § 129.68(b)(2) and (c)(2), § 129.73 or § 129.77.

* * * * *

(c) *Demonstration of compliance.* ~~[Test]~~ Unless otherwise set forth in this chapter, test methods and procedures used to monitor compliance with the emission requirements of this section are those specified in Chapter 139 (relating to sampling and testing).

* * * * *

(d) *Records.* The owner or operator of a facility or source subject to ONE OR MORE OF the VOC emission limitations and control requirements in this chapter shall keep records to demonstrate compliance with the applicable limitation or control requirement.

(1) The records shall provide sufficient data and calculations to clearly demonstrate that the APPLICABLE emission ~~[limitations]~~ LIMITATION or control ~~[requirements are]~~ REQUIREMENT IS met. Data or information required to determine compliance with an applicable limitation shall be recorded and maintained in a time frame consistent with the averaging period of the standard.

(2) The records shall be ~~[retained at least 2 years and]~~ MAINTAINED ON SITE FOR 2 YEARS, UNLESS A LONGER PERIOD IS REQUIRED BY A PLAN APPROVAL OR OPERATING PERMIT ISSUED UNDER CHAPTER 127 (RELATING TO CONSTRUCTION, MODIFICATION, REACTIVATION AND OPERATION OF SOURCES). THE RECORDS shall be made available to the Department on request.

~~[(3)]~~ (e) DEMONSTRATION OF EXEMPT STATUS. ~~[An]~~ THE owner or operator OF A FACILITY OR SOURCE claiming that ~~[a]~~ THE facility or source is exempt from the VOC

control provisions of this chapter shall maintain records that clearly demonstrate to the Department that the facility or source is not subject to the VOC emission limitations or control requirements **OF THIS CHAPTER.**

* * * * *

§ 129.67. Graphic arts systems.

(a) This section applies **[to facilities] as follows:**

(1) This section applies to the owner and operator of a facility whose rotogravure and flexographic printing presses by themselves or in combination with a surface coating operation subject to § 129.52 **[(relating to surface coating processes)], § 129.52a, § 129.52b or § 129.52c or in combination with a flexible packaging printing press subject to § 129.67a (relating to control of VOC emissions from flexible packaging printing presses)** have the potential to emit or have emitted VOCs into the outdoor atmosphere in quantities greater than 1,000 pounds (460 kilograms) per day or 100 tons (90,900 kilograms) per year during any calendar year since January 1, 1987.

(2) This section applies to the owner and operator of a flexographic or rotogravure printing press that prints flexible packaging materials subject to § 129.67a(a)(1)(ii) if the owner or operator was required to install a control device under this section prior to _____ (Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.)

(3) This section does not apply to the owner or operator of a flexible packaging printing press subject to § 129.67a(a)(1)(i).

* * * * *

(Editor's Note: Sections 129.67a and 129.67b are new and printed in regular type to enhance readability.)

§ 129.67a. Control of VOC emissions from flexible packaging printing presses.

(a) *Applicability.*

(1) Except as specified in **[paragraphs] PARAGRAPH (3) [and] OR (4)**, this section applies to the owner and operator of a flexible packaging printing press if one or **[both] MORE** of the following apply:

(i) **POTENTIAL VOC EMISSIONS.** An individual flexible packaging printing press has potential emissions from the dryer, before consideration of add-on controls, of at least 25 tpy of VOCs from inks, coatings and adhesives combined. This section supersedes § 129.67 (relating to graphic arts systems).

(ii) **ACTUAL VOC EMISSIONS AT OR ABOVE THRESHOLD.** The total actual VOC emissions from all inks, coatings and adhesives combined from all flexible packaging printing

presses and all **VOC** emissions from related cleaning activities at the facility are equal to or greater than **[15 pounds (6.8 kilograms) per day] 450 POUNDS (204.1 KILOGRAMS) PER MONTH** or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iii) ACTUAL VOC EMISSIONS BELOW THRESHOLD. THE TOTAL ACTUAL VOC EMISSIONS FROM ALL INKS, COATINGS AND ADHESIVES COMBINED FROM ALL FLEXIBLE PACKAGING PRINTING PRESSES AND ALL VOC EMISSIONS FROM RELATED CLEANING ACTIVITIES AT THE FACILITY ARE LESS THAN 450 POUNDS (204.1 KILOGRAMS) PER MONTH OR 2.7 TONS (2,455 KILOGRAMS) PER 12-MONTH ROLLING PERIOD, BEFORE CONSIDERATION OF ADD-ON CONTROLS.

(2) The owner or operator of a flexographic or rotogravure printing press subject to paragraph (1)(i) and § 129.67, who was required to install a control device under § 129.67 prior to _____, (*Editor's Note:* The blank refers to the effective date of adoption of this proposed rulemaking.) shall continue the operation of that control device and also meet the requirements of this section.

(3) VOCs from adhesives used at a facility that are not used or applied on or with a flexible packaging printing press are not subject to this section and may be regulated under § 129.52b, § 129.77 or Chapter 130, Subchapter D (relating to control of VOC emissions from paper, film and foil surface coating processes; control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).

(4) ~~**[This section does not apply to surface coating of flexible packaging substrates that is not done with a flexible packaging printing press.]**~~ Surface coating of flexible packaging substrates **THAT IS NOT DONE WITH A FLEXIBLE PACKAGING PRINTING PRESS** is regulated under § 129.52b.

(b) *Existing RACT permit.* This section supersedes the requirements of a RACT permit issued to the owner or operator of a source subject to this section prior to **[January 1, 2013] JANUARY 1, 2015**, under §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize VOCs from a flexible packaging printing press, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning **[January 1, 2013] JANUARY 1, 2015**, a person subject to subsection (a)(1)(i) may not cause or permit the emission into the outdoor atmosphere of VOCs from a flexible packaging printing press, unless one or more of the following limitations is met:

(1) **INDIVIDUAL INK, COATING OR ADHESIVE.** The VOC content of each as applied ink, coating or adhesive used on a single flexible packaging printing press **[is] MEETS THE FOLLOWING REQUIREMENTS:**

(i) **THE VOC CONTENT IS** equal to or less than one or both of the following limits:

(i) **(A)** 0.16 lb VOC per lb material as applied.

(ii) **(B)** 0.8 lb VOC per lb material solids as applied.

(ii) THE VOC CONTENT IS CALCULATED AS FOLLOWS FOR VOC CONTENT EXPRESSED IN UNITS OF WEIGHT OF VOC PER WEIGHT OF MATERIAL SOLIDS:

$$\text{VOC}_B = (W_o)/(W_n)$$

WHERE:

VOC_B = VOC CONTENT IN LB VOC/LB OF SOLIDS AS APPLIED OR KG VOC/KG OF SOLIDS AS APPLIED

W_o = WEIGHT PERCENT OF VOC (W_v-W_w-W_{ex})

W_v = WEIGHT PERCENT OF TOTAL VOLATILES (100%-WEIGHT PERCENT SOLIDS)

W_w = WEIGHT PERCENT OF WATER

W_{ex} = WEIGHT PERCENT OF EXEMPT SOLVENTS

W_n = WEIGHT PERCENT OF SOLIDS OF THE AS APPLIED INK, COATING OR ADHESIVE

(iii) SAMPLING OF THE INK, COATING OR ADHESIVE AND TESTING FOR THE VOC CONTENT OF THE INK, COATING OR ADHESIVE IS PERFORMED IN ACCORDANCE WITH SUBSECTION (f).

(2) **WEIGHTED AVERAGE.** The daily weighted-average VOC content of all inks, coatings and adhesives combined used on a single flexible packaging printing press meets one or both of the VOC content limits in paragraph (1)**(i)**. The use of averaging to meet the VOC content limits may not be used across multiple printing presses. **AVERAGING IS AVAILABLE ON A SINGLE FLEXIBLE PACKAGING PRINTING PRESS IF THE FOLLOWING REQUIREMENTS ARE MET:**

(i) THE DAILY WEIGHTED AVERAGE IS CALCULATED USING THE FOLLOWING EQUATION:

$$\text{VOC}_w = \frac{\sum_{i=1}^n C_i V_i}{V_i}$$

WHERE:

VOC_w=THE DAILY WEIGHTED AVERAGE VOC CONTENT, AS APPLIED, OF ALL INKS, COATINGS AND ADHESIVES COMBINED USED ON A SINGLE FLEXIBLE PACKAGING PRINTING PRESS, IN LB VOC/GAL OF COATING SOLIDS

n=THE NUMBER OF DIFFERENT INKS, COATINGS AND ADHESIVES USED EACH DAY ON THE SINGLE FLEXIBLE PACKAGING PRINTING PRESS

V_i=THE VOLUME OF SOLIDS FOR EACH INK, COATING AND ADHESIVE, AS APPLIED, USED EACH DAY ON THE SINGLE FLEXIBLE PACKAGING PRINTING PRESS, IN GALLONS

C_i=THE VOC CONTENT OF EACH INK, COATING AND ADHESIVE, AS APPLIED, USED EACH DAY ON THE SINGLE FLEXIBLE PACKAGING PRINTING PRESS, IN LB VOC/GAL COATING SOLIDS

V_t=THE TOTAL VOLUME OF SOLIDS FOR ALL INKS, COATINGS AND ADHESIVES COMBINED, AS APPLIED, USED EACH DAY ON THE SINGLE FLEXIBLE PACKAGING PRINTING PRESS, IN GALLONS

(ii) SAMPLING OF THE INKS, COATINGS AND ADHESIVES AND TESTING FOR THE VOC CONTENT OF THE INKS, COATINGS AND ADHESIVES IS PERFORMED IN ACCORDANCE WITH SUBSECTION (f).

(3) **ADD-ON AIR POLLUTION CONTROL DEVICE.** The overall weight of VOCs emitted to the atmosphere from all inks, coatings and adhesives combined used on a single flexible packaging printing press is reduced through the use of vapor recovery or **[incineration]** **OXIDATION** or another method that is acceptable under § 129.51(a) (relating to general). The overall **CONTROL** efficiency of a control system, as determined by the test methods and procedures specified in **[Chapter 139 (relating to sampling and testing)] SUBSECTION (f),** may not be less than that listed in Table 1.

Table 1

Overall **CONTROL** Efficiency Requirement of a Control System on a Single Flexible Packaging Printing Press with Potential Emissions ≥ 25 tpy of VOC Before Control

Control System Overall CONTROL Efficiency Requirement	Printing Press First Installation Date ¹		Air Pollution Control Device First Installation Date ¹	
	Prior to March 14, 1995*	On or after March 14, 1995*	Prior to <u>[January 1, 2013]</u> <u>JANUARY 1,</u> <u>2015**</u>	On or after <u>[January 1, 2013]</u> <u>JANUARY 1,</u> <u>2015**</u>
$\geq 65\%$	X		X	
$\geq 70\%$	X			X
$\geq 75\%$		X	X	
$\geq 80\%$		X		X

¹ FIRST INSTALLATION DATE IS THE FIRST DATE OF OPERATION FOR A SOURCE OR A CONTROL DEVICE. THIS DATE DOES NOT CHANGE IF THE SOURCE OR CONTROL DEVICE IS MOVED TO A NEW LOCATION OR IF THE CONTROL DEVICE IS LATER USED TO CONTROL A NEW SOURCE.

* March 14, 1995, is the date of the proposed 1996 NESHAP for the printing and publishing industry.

** [January 1, 2013] JANUARY 1, 2015, is the [proposed] compliance date of the flexible packaging printing press regulation.

~~(4) [The overall weight of VOCs emitted to the atmosphere from a single flexible packaging printing press that uses a noncomplying ink, coating or adhesive, or a combination of noncomplying and complying inks, coatings or adhesives, is reduced through the use of vapor recovery or incineration or another method that is authorized under § 129.51(a).~~

~~(5) RESTRICTION ON POTENTIAL VOC EMISSIONS. The Department has issued a plan approval, operating permit or Title V permit to the owner or operator prior to [January 1, 2013] JANUARY 1, 2015, establishing a Federally-enforceable limitation to limit the potential emissions of VOC from the flexible packaging printing press below 25 tpy before consideration of add-on controls.~~

~~(d) Compliance AND monitoring requirements FOR AN ADD-ON AIR POLLUTION CONTROL DEVICE.~~

~~(1) The VOC content of the as applied ink, coating or adhesive, expressed in units of weight of VOC per weight of solids, shall be calculated as follows:~~

~~$$VOC_B = (W_o)/(W_s)$$~~

Where:

~~—VOC_B = VOC content in lb VOC/lb of solids as applied or kg VOC/kg of solids as applied~~

~~—W_o = Weight percent of VOC (W_v-W_w-W_{ex})~~

~~—W_v = Weight percent of total volatiles (100%-weight percent solids)~~

~~—W_w = Weight percent of water~~

~~—W_{ex} = Weight percent of exempt solvents~~

~~—W_s = Weight percent of solids of the as applied ink, coating or adhesive~~

~~—(2) The overall efficiency of a control system for a single flexible packaging printing press that uses a combination of controls and noncomplying and complying inks, coatings and adhesives, as determined by the test methods and procedures specified in Chapter 139, must be no less than 80% or the equivalent overall efficiency as calculated by the following equation, whichever is less stringent:~~

~~—O = (1 - E/V) × 100~~

Where:

~~—V = The VOC content of the as applied coating, in lb VOC/lb material or in lb VOC/lb material solids.~~

~~—E = The emission limit from subsection (c)(1): either 0.16 lb VOC/lb material or 0.8 lb VOC/lb material solids.~~

~~—O = The overall required control efficiency.~~

~~—(3)~~ The owner or operator of a **FLEXIBLE PACKAGING** printing press subject to **[this section]** **SUBSECTION (a)(1)(i)** using an add-on air pollution control device in accordance with subsection (c)(3) shall comply with the following requirements:

~~[(+)](1)~~ The add-on air pollution control device **[must]** **SHALL** be equipped with the applicable monitoring equipment and the monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times the add-on air pollution control device is in use. **IF THE ADD-ON AIR POLLUTION CONTROL DEVICE IS A:**

~~[(A) The]~~

(i) NON-CATALYTIC THERMAL OXIDIZER, THE MINIMUM combustion OR OPERATING temperature must be continuously monitored [and recorded daily if a thermal

incinerator is operated]. THE TEMPERATURE READING MUST BE RECORDED IN ACCORDANCE WITH SUBSECTION (e)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE NON-CATALYTIC THERMAL OXIDIZER IS OPERATING.

~~[(B) Inlet and exhaust gas temperatures]~~

(ii) CATALYTIC THERMAL OXIDIZER:

(A) THE INLET GAS TEMPERATURE must be continuously monitored [~~and recorded daily if a catalytic incinerator is operated]. THE TEMPERATURE READING MUST BE RECORDED IN ACCORDANCE WITH SUBSECTION (e)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE CATALYTIC THERMAL OXIDIZER IS OPERATING.~~

(B) A CATALYST ACTIVITY TEST MUST BE PERFORMED A MINIMUM OF ONE TIME PER ROLLING 2-YEAR PERIOD.

(iii) CONTROL DEVICE OTHER THAN THAT SPECIFIED IN SUBPARAGRAPH (i) OR (ii), PARAMETERS SPECIFIC TO THE CONTROL DEVICE MUST BE CONTINUOUSLY MONITORED. THE PARAMETERS MUST BE RECORDED IN ACCORDANCE WITH SUBSECTION (e)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE CONTROL DEVICE IS OPERATING.

~~[(ii) Operational records sufficient to demonstrate compliance with the requirements of this subsection shall be maintained in accordance with subsection (e), including the following:~~

~~—(A) Daily records of the hours of operation of the add-on air pollution control device.~~

~~—(B) Records of the maintenance performed on the add-on air pollution control device, including the date and type of maintenance.~~

~~—(C) Records of the maintenance performed on the air pollution control device monitoring equipment, including the date and type of maintenance.~~

~~—(iii)(2) THE ADD-ON AIR POLLUTION CONTROL DEVICE SPECIFIED IN PARAGRAPH (1) MUST BE OPERATED AT A 3-HOUR AVERAGE TEMPERATURE NOT LOWER THAN 50°F BELOW THE AVERAGE TEMPERATURE DEMONSTRATED DURING THE MOST RECENT COMPLIANT SOURCE TEST APPROVED BY THE DEPARTMENT.~~

(3) The ADD-ON air pollution control device SPECIFIED IN PARAGRAPH (1) must be in operation at all times that the source is operating.

~~[(iv)](4) The ADD-ON air pollution control device [is] SHALL BE approved, in writing, by the Department in [an] A PLAN APPROVAL, operating permit OR TITLE V PERMIT prior to use.~~

(e) *Recordkeeping and reporting requirements.* Beginning ~~[January 1, 2013]~~ **JANUARY 1, 2015**, the owner or operator of a flexible packaging printing press subject to this section shall maintain records sufficient to demonstrate compliance with the requirements of this section. ~~[At a minimum, the]~~ **RECORDS MAINTAINED FOR COMPLIANCE DEMONSTRATIONS MAY INCLUDE PURCHASE, USE, PRODUCTION AND OTHER RECORDS.**

(1) AN owner or operator SUBJECT TO SUBSECTION (a)(1)(i) USING AN ADD-ON AIR POLLUTION CONTROL DEVICE shall maintain [daily] records SUFFICIENT TO DEMONSTRATE COMPLIANCE WITH SUBSECTION (d), INCLUDING records of the following information:

(i) TEMPERATURE READING OF THE ADD-ON AIR POLLUTION CONTROL DEVICE.

(ii) MAINTENANCE PERFORMED ON THE ADD-ON AIR POLLUTION CONTROL DEVICE AND MONITORING EQUIPMENT, INCLUDING THE DATE AND TYPE OF MAINTENANCE.

(iii) CATALYST ACTIVITY TEST PERFORMED, IF APPLICABLE.

~~[(1) The following parameters for each VOC-containing material, including ink, coating, adhesive, thinner, component or cleaning solvent, as supplied:~~

~~— (i) The name and identification number of the ink, coating, adhesive, thinner, component or cleaning solvent.~~

~~— (ii) The amount used.~~

~~— (iii) The density or specific gravity.~~

~~— (iv) The VOC content (weight % or pounds/gallon).~~

~~— (2) The VOC content of each ink, coating, adhesive, thinner, component or cleaning solvent as applied.~~

~~— (3) The volume used of each ink, coating, adhesive, thinner, component or cleaning solvent as applied.]~~

(2) AN OWNER OR OPERATOR SUBJECT TO SUBSECTION (a)(1)(i) NOT USING AN ADD-ON AIR POLLUTION CONTROL DEVICE SHALL MAINTAIN RECORDS OF THE AS APPLIED VOC CONTENT OF INKS, COATINGS AND ADHESIVES SUFFICIENT TO DEMONSTRATE COMPLIANCE WITH THE LIMITATIONS UNDER SUBSECTION (c)(1) OR (c)(2).

(3) AN OWNER OR OPERATOR CLAIMING EXEMPTION FROM A VOC CONTROL PROVISION OF THIS SECTION BASED ON POTENTIAL OR ACTUAL VOC EMISSIONS, AS APPLICABLE, SHALL MAINTAIN RECORDS THAT DEMONSTRATE TO THE DEPARTMENT THAT THE PRESS OR FACILITY IS EXEMPT.

(4) THE OWNER OR OPERATOR MAY GROUP MATERIALS INTO CLASSES USING THE HIGHEST VOC CONTENT IN ANY MATERIAL IN A CLASS TO REPRESENT THAT CLASS OF MATERIAL.

(5) The records required under paragraphs [~~(1)—(3)~~] (1)—(4) shall be maintained for 2 years, unless a longer period is required [~~under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements)] BY A PLAN APPROVAL OR OPERATING PERMIT ISSUED UNDER CHAPTER 127 (RELATING TO CONSTRUCTION, MODIFICATION, REACTIVATION AND OPERATION OF SOURCES).~~ The records shall be submitted to the Department **IN AN ACCEPTABLE FORMAT** upon receipt of a written request.

(6) THE OWNER OR OPERATOR OF A FLEXIBLE PACKAGING PRINTING PRESS SUBJECT TO SUBSECTION (a)(1)(i) THAT IS REQUIRED TO DEMONSTRATE OVERALL CONTROL EFFICIENCY IN ACCORDANCE WITH SUBSECTIONS (c)(3) AND (d) SHALL SUBMIT REPORTS TO THE DEPARTMENT IN ACCORDANCE WITH CHAPTER 139 (RELATING TO SAMPLING AND TESTING).

(f) *Sampling and testing.*

(1) Sampling and testing **SHALL BE PERFORMED AS FOLLOWS:**

(i) SAMPLING OF AN INK OR COATING AND TESTING FOR THE VOC CONTENT OF THE INK OR COATING shall be [~~done~~] **PERFORMED** in accordance with the procedures and test methods specified in Chapter 139.

(ii) SAMPLING AND TESTING OF AN ADD-ON AIR POLLUTION CONTROL DEVICE SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND TEST METHODS SPECIFIED IN CHAPTER 139 AND MEET ONE OF THE FOLLOWING:

(A) SAMPLING AND TESTING SHALL BE PERFORMED NO LATER THAN 180 DAYS AFTER THE COMPLIANCE DATE OF THE PRESS.

(B) SAMPLING AND TESTING SHALL HAVE BEEN PERFORMED WITHIN 5 YEARS PRIOR TO JANUARY 1, 2015, AND SHALL HAVE BEEN PREVIOUSLY APPROVED BY THE DEPARTMENT. CAPTURE EFFICIENCY RETESTING MAY BE WAIVED FOR CAPTURE SYSTEMS THAT ARE NOT PERMANENT TOTAL ENCLOSURES IF THE OPERATING PARAMETERS INDICATE THAT A

FUNDAMENTAL CHANGE HAS NOT TAKEN PLACE IN THE OPERATION OR DESIGN OF THE EQUIPMENT, UNLESS RETESTING IS REQUIRED BY ARTICLE III OR A PLAN APPROVAL, OPERATING PERMIT OR AN ORDER ISSUED BY THE DEPARTMENT. FOR PURPOSES OF THIS CLAUSE, FUNDAMENTAL CHANGES INCLUDE THE FOLLOWING: ADDING PRINTING STATIONS TO A PRESS, INCREASING OR DECREASING THE VOLUMETRIC FLOW RATE FROM THE DRYER OR CHANGING THE STATIC DUCT PRESSURE.

(2) THE OVERALL CONTROL EFFICIENCY OF THE ADD-ON AIR POLLUTION CONTROL DEVICE SHALL BE DETERMINED BY THE FOLLOWING TEST METHODS AND PROCEDURES SUBJECT TO PRIOR WRITTEN APPROVAL BY THE DEPARTMENT.

(i) THE CAPTURE EFFICIENCY SHALL BE DETERMINED IN ACCORDANCE WITH EITHER OF THE FOLLOWING METHODS:

(A) 40 CFR PART 51, APPENDIX M, METHODS 204—204F, INCLUDING UPDATES AND REVISIONS.

(B) 40 CFR PART 63, SUBPART KK, APPENDIX A, DATA QUALITY OBJECTIVE AND LOWER CONFIDENCE LIMIT APPROACHES FOR ALTERNATIVE CAPTURE EFFICIENCY PROTOCOLS AND TEST METHODS.

(ii) THE CONTROL EFFICIENCY SHALL BE DETERMINED USING ONE OR MORE OF THE FOLLOWING METHODS, AS APPLICABLE. THE METHOD USED TO MEASURE THE INLET CONCENTRATION OF VOC MAY BE THE SAME METHOD USED TO DETERMINE THE OUTLET CONCENTRATION OF VOC UNLESS USE OF THE SAME METHOD IS DETERMINED TO BE TECHNICALLY INFEASIBLE.

(A) EPA REFERENCE METHOD 25, DETERMINATION OF TOTAL GASEOUS NONMETHANE ORGANIC EMISSIONS AS CARBON, FOUND IN 40 CFR PART 60, APPENDIX A, INCLUDING UPDATES AND REVISIONS. EPA REFERENCE METHOD 25 MAY BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON.

(B) EPA REFERENCE METHOD 25A, DETERMINATION OF TOTAL GASEOUS ORGANIC CONCENTRATION USING A FLAME IONIZATION ANALYZER, FOUND IN 40 CFR PART 60, APPENDIX A, INCLUDING UPDATES AND REVISIONS. EPA REFERENCE METHOD 25A MAY NOT BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION AT THE OUTLET OF THE ADD-ON AIR POLLUTION CONTROL DEVICE IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON.

(C) EPA REFERENCE METHOD 18, MEASUREMENT OF GASEOUS ORGANIC COMPOUND EMISSIONS BY GAS CHROMATOGRAPHY, FOUND IN 40 CFR PART 60, APPENDIX A, INCLUDING UPDATES AND REVISIONS. EPA REFERENCE METHOD 18 MAY BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON. EPA REFERENCE METHOD 18 MAY BE USED IN CONJUNCTION WITH EPA REFERENCE METHOD 25A TO SUBTRACT EMISSIONS OF EXEMPT VOCs.

(3) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with this section may be used if prior approval is obtained in writing from the Department and the EPA.

(g) *Work practice requirements for cleaning **[materials]** **ACTIVITIES.***

(1) **[Beginning January 1, 2013] EXCEPT AS SPECIFIED IN PARAGRAPH (3), BEGINNING JANUARY 1, 2015,** the owner or operator of a flexible packaging printing press subject to **[this section] SUBSECTION (a)(1)(i), (a)(1)(ii) OR (a)(2)** shall comply with the following work practices for cleaning activities at the facility:

(i) Store all VOC-containing cleaning **[materials] SOLUTIONS,** waste cleaning **[materials] SOLUTIONS** and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning **[materials] SOLUTIONS [and],** waste cleaning **[materials] SOLUTIONS AND USED SHOP TOWELS** are kept closed at all times, except when depositing or removing these **[materials] SOLUTIONS OR SHOP TOWELS.**

(iii) Minimize spills of VOC-containing cleaning **[materials] SOLUTIONS** and waste cleaning **[materials] SOLUTIONS** and clean up spills immediately.

(iv) Convey VOC-containing cleaning **[materials] SOLUTIONS [and],** waste cleaning **[materials] SOLUTIONS AND USED SHOP TOWELS** from one location to another in closed containers or pipes.

(2) The requirements in paragraph (1) apply to the following activities:

(i) Cleaning of ink, coating or adhesive from a press.

(ii) Cleaning of ink, coating or adhesive from press parts, including press parts that have been removed from the press for cleaning.

(iii) Cleaning of ink, coating or adhesive from areas around a press.

(3) The requirements in paragraph (1) do not apply to the following activities:

- (i) Cleaning electronic components of a press.
- (ii) Cleaning in pre-press (~~[that is]~~ **FOR EXAMPLE**, platemaking) operations.
- (iii) Cleaning in post-press (~~[that is]~~ **FOR EXAMPLE**, binding) operations.
- (iv) Using janitorial supplies (for example, detergents or floor cleaners) for general cleaning around a press.
- (v) The use of parts washers or cold cleaners at a flexible packaging printing facility. The use of parts washers and cold cleaners is regulated under § 129.63 (relating to degreasing operations).

§ 129.67b. Control of VOC emissions from offset lithographic printing presses and letterpress printing presses.

(a) *Applicability.*

(1) Except as specified in paragraph ~~[(2)]~~ (3), this section applies to the owner and operator of an offset lithographic printing press or a letterpress printing press, or both, if the press meets one or a combination of the following:

(i) **ADD-ON AIR POLLUTION CONTROL DEVICE.** A single heatset web offset lithographic printing press or heatset web letterpress printing press that has potential emissions from the dryer, before consideration of add-on controls, of at least 25 tpy of VOCs from all heatset inks (**INCLUDING VARNISHES**), coatings and adhesives combined.

(ii) **LETTERPRESS PRINTING.** ~~[A]~~ **ONE OR MORE** letterpress printing ~~[press]~~ **PRESSES** if the total actual VOC emissions from all inks (**INCLUDING VARNISHES**), coatings and adhesives combined from all letterpress printing presses and all **VOC** emissions from related cleaning activities at the facility are equal to or greater than ~~[15 pounds (6.8 kilograms) per day]~~ **450 POUNDS (204.1 KILOGRAMS) PER MONTH** or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iii) **OFFSET LITHOGRAPHIC PRINTING.** ~~[An]~~ **ONE OR MORE** offset lithographic printing ~~[press]~~ **PRESSES** if the total actual VOC emissions from all inks (**INCLUDING VARNISHES**), coatings ~~[and]~~, adhesives **AND FOUNTAIN SOLUTIONS** combined from all offset lithographic printing presses and all **VOC** emissions from related cleaning activities at the facility are equal to or greater than ~~[15 pounds (6.8 kilograms) per day]~~ **450 POUNDS (204.1 KILOGRAMS) PER MONTH** or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iv) OFFSET LITHOGRAPHIC PRINTING AND LETTERPRESS PRINTING. ONE OR MORE OFFSET LITHOGRAPHIC PRINTING PRESSES AND ONE OR MORE LETTERPRESS PRINTING PRESSES IF THE TOTAL ACTUAL VOC EMISSIONS FROM ALL INKS (INCLUDING VARNISHES), COATINGS, ADHESIVES AND FOUNTAIN SOLUTIONS COMBINED AND ALL VOC EMISSIONS FROM RELATED CLEANING ACTIVITIES AT THE FACILITY ARE EQUAL TO OR GREATER THAN 450 POUNDS (204.1 KILOGRAMS) PER MONTH OR 2.7 TONS (2,455 KILOGRAMS) PER 12-MONTH ROLLING PERIOD, BEFORE CONSIDERATION OF ADD-ON CONTROLS.

(v) EMISSIONS BELOW 450 POUNDS PER MONTH AND 2.7 TONS PER 12-MONTH ROLLING PERIOD. THE TOTAL ACTUAL VOC EMISSIONS FROM ALL INKS (INCLUDING VARNISHES), COATINGS, ADHESIVES AND FOUNTAIN SOLUTIONS COMBINED FROM ALL OFFSET LITHOGRAPHIC PRINTING PRESSES, ALL LETTERPRESS PRINTING PRESSES AND ALL VOC EMISSIONS FROM RELATED CLEANING ACTIVITIES AT THE FACILITY ARE LESS THAN 450 POUNDS (204.1

KILOGRAMS) PER MONTH AND 2.7 TONS (2,455 KILOGRAMS) PER 12-MONTH ROLLING PERIOD, BEFORE CONSIDERATION OF ADD-ON CONTROLS.

(2) THE OWNER OR OPERATOR OF AN OFFSET LITHOGRAPHIC PRINTING PRESS SUBJECT TO PARAGRAPH (1) MAY USE THE VOC EMISSION RETENTION FACTORS AND CAPTURE EFFICIENCY FACTORS SPECIFIED IN SUBSECTION (1) TO DETERMINE THE AMOUNT OF POTENTIAL OR ACTUAL VOC EMISSIONS THAT IS AVAILABLE FOR CAPTURE AND CONTROL FROM THE INKS (INCLUDING VARNISHES), FOUNTAIN SOLUTIONS AND CLEANING SOLUTIONS USED ON THE OFFSET LITHOGRAPHIC PRINTING PRESS.

(3) VOCs from adhesives used at a facility that are not used or applied on or with an offset lithographic printing press or a letterpress printing press are not subject to this section and may be regulated under § 129.77 or Chapter 130, Subchapter D (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).

(b) *Existing RACT permit.* This section supersedes the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a) prior to **[January 1, 2013] JANUARY 1, 2015**, under §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize VOCs from an offset lithographic printing press or a letterpress printing press, or both, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits for **CLEANING SOLUTIONS AND FOUNTAIN SOLUTIONS USED IN OR ON** printing presses subject to this section.*

(1) **CLEANING SOLUTIONS.** Beginning **[January 1, 2013] JANUARY 1, 2015**, a person subject to **[this section] SUBSECTION (a)(1)(i), (ii), (iii) OR (iv)** may not cause or permit the emission into the outdoor atmosphere of VOCs from cleaning **[materials] SOLUTIONS** used in **OR ON** an offset lithographic printing press or a letterpress printing press unless the following conditions are met:

(i) The cleaning **[materials] SOLUTIONS** used shall meet one or both of the following VOC limits:

(A) A VOC composite partial vapor pressure less than 10 millimeters of mercury at 68°F (20°C).

(B) A VOC content less than **[30%] 70%** by weight.

(ii) The use of one or more cleaning **[materials] SOLUTIONS** with a higher VOC composite partial vapor pressure or higher VOC content, or both, than is listed in subparagraph (i), is limited to **[55] 110** gallons per year, combined, of all cleaning **[materials] SOLUTIONS** that exceed the limits in subparagraph (i).

(2) ~~[Beginning January 1, 2013]~~ **FOUNTAIN SOLUTIONS. EXCEPT AS SPECIFIED IN PARAGRAPH (3), BEGINNING JANUARY 1, 2015,** a person subject to subsection (a)(1)(i) ~~[or]~~, (iii) **OR (iv)** may not cause or permit the emission into the outdoor atmosphere of VOCs from a fountain solution used in an offset lithographic printing press unless the fountain solution meets one or more of the following VOC limits. ~~[This paragraph does not apply to an owner or operator subject to paragraph (3).]~~

(i) For **EACH** heatset web offset lithographic printing **PRESS, THE** press-ready (as applied) fountain solution shall ~~[contain 1.6% or less alcohol by weight or equivalent. This limit may be met by]~~ **MEET** one ~~[or more]~~ of the following ~~[methods]~~ **LIMITS**:

(A) ~~[Reducing the press-ready (as applied) fountain solution alcohol content to]~~ **A VOC CONTENT OF** 1.6% or less by weight.

(B) ~~[Using press-ready (as applied) fountain solution with alcohol]~~ **A VOC** content of 3% or less by weight if the fountain solution is refrigerated ~~[at or]~~ below 60°F (15.5°C).

(C) ~~[Using press-ready (as applied) fountain solution with alcohol substitute]~~ **A VOC** content of 5% or less by weight and no alcohol in the fountain solution.

(D) ~~[Using another]~~ **ANOTHER** method that achieves a level of control of VOC emissions from the press-ready (as applied) fountain solution equal to or better than the methods listed in clauses (A)—(C).

(ii) For **EACH** sheet-fed offset lithographic printing **PRESS, THE** press-ready (as applied) fountain solution shall ~~[contain 5% or less alcohol by weight or equivalent. This limit may be met by]~~ **MEET** one ~~[or more]~~ of the following ~~[methods]~~ **LIMITS**:

(A) ~~[Reducing the press-ready (as applied) fountain solution alcohol content to]~~ **A VOC CONTENT OF** 5% or less by weight.

(B) ~~[Using press-ready (as applied) fountain solution with alcohol content of]~~ **A VOC CONTENT OF** 8.5% or less by weight if the fountain solution is refrigerated ~~[at or]~~ below 60°F (15.5°C).

(C) ~~[Using press-ready (as applied) fountain solution with alcohol substitute]~~ **A VOC** content of 5% or less by weight and no alcohol in the fountain solution.

(D) ~~[Using another]~~ **ANOTHER** method that achieves a level of control of VOC emissions from the press-ready (as applied) fountain solution equal to or better than the methods listed in clauses (A)—(C).

(iii) For ~~[coldset]~~ **EACH NON-HEATSET** web offset lithographic printing **PRESS, THE** press-ready (as applied) fountain solution shall contain ~~[alcohol substitute]~~ **A VOC CONTENT** of 5% or less by weight and no alcohol in the fountain solution.

(3) **FOUNTAIN SOLUTION EXCEPTIONS.** The control requirements under paragraph (2) for a fountain solution do not apply to the owner or operator of either of the following:

(i) A sheet-fed offset lithographic printing press with maximum sheet size 11 x 17 inches or smaller.

(ii) An offset lithographic printing press with total fountain solution reservoir of less than 1 gallon.

(d) *Emission limits for heatset web offset lithographic printing presses and heatset web letterpress printing presses.*

~~(1) [This subsection only applies if a single heatset web offset lithographic printing press or heatset web letterpress printing press has potential emissions from the dryer, before consideration of add-on controls, of at least 25 tpy of VOCs from all heatset inks, coatings and adhesives combined.]~~

~~—(2) This subsection does not apply for one or a combination of the following circumstances:~~

~~—(i) The press is used for book printing.~~

~~—(ii) The press has a maximum web width of 22 inches or less.~~

~~—(iii) When the press is operated with one or a combination of the following inks, coatings or varnishes:~~

~~—(A) Waterborne coatings.~~

~~—(B) Ultra-violet light or electron beam radiation-cured materials.~~

~~—(C) Sheet-fed or coldset web inks.~~

~~—(D) Sheet-fed or coldset web varnishes.~~

~~—(3) This subsection does not apply to the owner or operator of the press if the Department has issued a plan approval, operating permit or Title V permit to the owner or operator prior to January 1, 2013, establishing a Federally enforceable limitation to limit the potential emissions of VOC from the offset lithographic printing press or the letterpress printing press below 25 tpy, before consideration of add-on controls.~~

~~—(4) Beginning January 1, 2013] EXCEPT AS SPECIFIED IN PARAGRAPH (2) OR (3), BEGINNING JANUARY 1, 2015,~~ a person subject to subsection (a)(1)(i) may not cause or permit the emission into the outdoor atmosphere of VOCs from a heatset web offset lithographic printing press or a heatset web letterpress printing press, or both, unless the overall weight of VOCs emitted to the atmosphere from the heatset dryer is reduced through the use of vapor

recovery or ~~incineration~~ **OXIDATION** or another method that is authorized under § 129.51(a) (relating to general). The **HEATSET** dryer pressure must be maintained lower than the press room area pressure so that air flows into the **HEATSET** dryer at all times when the press is operating.

(i) The ~~overall~~ **VOC CONTROL** efficiency of an add-on air pollution control device for a heatset dryer, determined in accordance with ~~this~~ subsection **(h)**, shall meet either of the following:

(A) At least 90% for an add-on air pollution control device whose first installation date was prior to ~~January 1, 2013~~ **JANUARY 1, 2015**.

(B) At least 95% for an add-on air pollution control device whose first installation date is on or after ~~January 1, 2013~~ **JANUARY 1, 2015**.

(ii) **THE FIRST INSTALLATION DATE IS THE FIRST DATE OF OPERATION FOR A SOURCE OR A CONTROL DEVICE. THIS DATE WILL NOT CHANGE IF THE SOURCE OR CONTROL DEVICE IS MOVED TO A NEW LOCATION OR IF THE CONTROL DEVICE IS LATER USED TO CONTROL A NEW SOURCE.**

(iii) ~~If the inlet VOC concentration to the control device is so low that compliance with the 90% or 95% overall efficiency in subparagraph (i) is not achievable, the~~ **THE** owner or operator of the printing press may request **THE DEPARTMENT'S** approval for an alternative ~~demonstration that meets~~ **LIMITATION IF** the following requirements **ARE MET**:

(A) The request is submitted to the Department in writing.

(B) The request demonstrates ~~the~~ **ONE OF THE FOLLOWING**:

(I) THE inlet VOC concentration to the control device is so low that compliance with the 90% or 95% overall efficiency in subparagraph (i) is not achievable.

(II) THE PRESS IS USING A COMBINATION DRYER AND OXIDIZER OR OTHER CONTROL EQUIPMENT CONFIGURATION THAT DOES NOT HAVE AN INLET THAT MEETS THE REQUIREMENT FOR TESTING SPECIFIED IN SUBSECTION (h).

(C) The request ~~is for an~~ **DEMONSTRATES THE MINIMUM** outlet VOC concentration ~~less than or equal to~~ **THAT THE UNIT CAN ACHIEVE, NOT TO EXCEED** 20 ppm as hexane **(40 PPM AS PROPANE)** on a dry basis.

~~(D) The Department approves the request in writing.~~

(iv) THE ALTERNATIVE LIMITATION REQUESTED UNDER SUBPARAGRAPH (iii) MUST BE APPROVED BY THE DEPARTMENT IN A PLAN APPROVAL, OPERATING PERMIT OR TITLE V PERMIT.

(2) THIS SUBSECTION DOES NOT APPLY FOR ONE OR A COMBINATION OF THE FOLLOWING CIRCUMSTANCES:

(i) THE PRESS IS USED FOR BOOK PRINTING.

(ii) THE PRESS HAS A MAXIMUM WEB WIDTH OF 22 INCHES OR LESS.

(iii) THE PRESS IS OPERATED WITH ONE OR A COMBINATION OF THE FOLLOWING INKS, COATINGS OR VARNISHES:

(A) WATERBORNE COATINGS.

(B) ULTRA-VIOLET LIGHT OR ELECTRON BEAM RADIATION CURED MATERIALS.

(C) SHEET-FED OR NON-HEATSET WEB INKS.

(D) SHEET-FED OR NON-HEATSET WEB VARNISHES.

(3) THIS SUBSECTION DOES NOT APPLY TO THE OWNER OR OPERATOR OF THE PRESS IF THE DEPARTMENT HAS ISSUED A PLAN APPROVAL, OPERATING PERMIT OR TITLE V PERMIT TO THE OWNER OR OPERATOR PRIOR TO JANUARY 1, 2015, ESTABLISHING A FEDERALLY-ENFORCEABLE LIMITATION TO LIMIT THE POTENTIAL EMISSIONS OF VOC FROM THE OFFSET LITHOGRAPHIC PRINTING PRESS OR THE LETTERPRESS PRINTING PRESS BELOW 25 TPY, BEFORE CONSIDERATION OF ADD-ON CONTROLS.

(e) *Compliance and monitoring requirements.*

(1) **ADD-ON AIR POLLUTION CONTROL DEVICE.** The owner or operator of a heatset web offset lithographic printing press or heatset web letterpress printing press subject to this section using an add-on air pollution control device in accordance with subsection (d) shall comply with the following requirements:

(i) The add-on air pollution control device shall be equipped with the applicable monitoring equipment and the monitoring equipment **[is] SHALL BE** installed, calibrated, operated and maintained according to manufacturer's specifications at all times the add-on air pollution control device is in use. **IF THE ADD-ON AIR POLLUTION CONTROL DEVICE IS A:**

(A) **[The] NON-CATALYTIC THERMAL OXIDIZER, THE MINIMUM combustion OR OPERATING temperature must be continuously monitored [and recorded daily if a thermal incinerator is operated]. THE TEMPERATURE READING MUST BE**

RECORDED IN ACCORDANCE WITH SUBSECTION (f)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE NON-CATALYTIC THERMAL OXIDIZER IS OPERATING.

(B) ~~[Inlet and exhaust gas temperatures]~~ **CATALYTIC THERMAL OXIDIZER:**

(I) THE INLET GAS TEMPERATURE must be continuously monitored [~~and recorded daily if a catalytic incinerator is operated~~]. **THE TEMPERATURE READING MUST BE RECORDED IN ACCORDANCE WITH SUBSECTION (f)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE THERMAL CATALYTIC OXIDIZER IS OPERATING.**

(II) A CATALYST ACTIVITY TEST MUST BE PERFORMED A MINIMUM OF ONE TIME PER ROLLING 2-YEAR PERIOD.

(C) CONTROL DEVICE OTHER THAN THAT SPECIFIED IN CLAUSE (A) OR (B), PARAMETERS SPECIFIC TO THE CONTROL DEVICE MUST BE CONTINUOUSLY MONITORED. THE PARAMETERS MUST BE RECORDED IN ACCORDANCE WITH SUBSECTION (f)(1) AT LEAST ONCE EVERY 15 MINUTES WHILE THE CONTROL DEVICE IS OPERATING.

(ii) ~~[Operational records sufficient to demonstrate compliance with this subsection shall be maintained in accordance with subsection (e), including the following:~~

~~(A) Daily records of the hours of operation of the add-on air pollution control device.~~

~~—(B) Records of the maintenance performed on the add-on air pollution control device, including the date and type of maintenance.~~

~~—(C) Records of the maintenance performed on the air pollution control device monitoring equipment, including the date and type of maintenance]~~ **THE ADD-ON AIR POLLUTION CONTROL DEVICE SPECIFIED IN SUBPARAGRAPH (i) MUST BE OPERATED AT A 3-HOUR AVERAGE TEMPERATURE NOT LOWER THAN 50°F BELOW THE AVERAGE TEMPERATURE DEMONSTRATED DURING THE MOST RECENT COMPLIANT SOURCE TEST APPROVED BY THE DEPARTMENT.**

(iii) The **ADD-ON** air pollution control device **SPECIFIED IN SUBPARAGRAPH (i)** must be in operation at all times that the source is operating.

(iv) **THE NEGATIVE DRYER PRESSURE SHALL BE ESTABLISHED DURING THE INITIAL TEST USING AN AIR FLOW DIRECTION INDICATOR, SUCH AS A SMOKE STICK OR ALUMINUM RIBBONS, OR A DIFFERENTIAL PRESSURE GAUGE. CAPTURE EFFICIENCY TESTING AND CONTINUOUS DRYER AIR FLOW MONITORING ARE NOT REQUIRED.**

(v) The **ADD-ON** air pollution control device shall be approved, in writing, by the Department in a plan approval, operating permit or Title V permit **PRIOR TO USE**.

(2) **FOUNTAIN SOLUTION**. The owner or operator of an offset lithographic printing press subject to this section that is required to meet one of the fountain solution VOC limits of subsection (c)(2) shall demonstrate compliance by using one or more of the following methods:

(i) Analysis of a sample of the press-ready (as applied) fountain solution for VOC content using EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings*, found in 40 CFR Part 60, Appendix A, including updates and revisions.

(ii) Maintenance onsite of MSDS, CPDS or other data provided by the manufacturer of the fountain solution that indicates the VOC content of the press-ready (as applied) fountain solution.

(iii) Calculation of the VOC content of the press-ready (as applied) fountain solution that combines the EPA Reference Method 24 analytical VOC content data for each of the concentrated [**materials**] **COMPONENTS OR ADDITIVES** used to prepare the press-ready fountain solution.

(A) The VOC content data **FOR EACH** of the concentrated [**materials**] **COMPONENTS OR ADDITIVES** shall be combined in the proportions in which the concentrated [**materials**] **COMPONENTS OR ADDITIVES** are mixed to make the batch of press-ready (as applied) fountain solution.

(B) The VOC content shall be calculated [**once**] **ONE TIME** for each [**batch**] **RECIPE** of press-ready (as applied) fountain solution [**and**]. **THE RECIPE NAME, VOC CONTENT FOR EACH CONCENTRATED COMPONENT OR ADDITIVE AND FOUNTAIN SOLUTION MIX RATIO SHALL BE** recorded in [**the form of**] a [**batch-log**] **LOGBOOK**.

(C) The EPA Reference Method 24 analysis of the concentrated [**materials**] **COMPONENTS OR ADDITIVES** used to prepare the press-ready (as applied) fountain solution may be performed by the supplier of the [**materials**] **COMPONENTS OR ADDITIVES** and these results provided to the owner or operator of the affected press.

(iv) Measurement of the recirculating reservoir temperature of a refrigerated press-ready (as applied) fountain solution **SPECIFIED IN SUBSECTION (c)(2)(i)(B) or (c)(2)(ii)(B)** with a thermometer or other temperature detection device capable of reading to 0.5°F (0.28°C) to ensure that the temperature of the refrigerated fountain solution containing alcohol is maintained [**at or**] below 60°F (15.5°C) at all times.

~~[(A) A temperature monitor shall be installed on the fountain solution recirculating reservoir, calibrated, maintained and continuously operated.]~~

~~(B)~~ The temperature on the **THERMOMETER OR OTHER** temperature [monitor] **DETECTION DEVICE** shall be **CONTINUOUSLY MONITORED. THE TEMPERATURE READING SHALL BE** recorded at least once per operating day to verify that the refrigeration system is operating properly.

(v) Monitoring of the press-ready (as applied) fountain solution [shall be performed] **FOR ALCOHOL CONCENTRATION OR VOC CONTENT** with one or more of the following instruments:

(A) A refractometer [shall be used] **OR A HYDROMETER** to monitor the fountain solution alcohol concentration. The [refractometer] **INSTRUMENT** must:

(I) Be corrected for temperature [at least once for each] **ONE TIME PER** 8-hour shift [or once per batch, whichever is longer].

(II) Have a visual, analog or digital readout with an accuracy of 0.5%.

(III) Be calibrated with a standard solution for the type of alcohol used in the fountain solution.

~~(B) [A hydrometer shall be used to monitor the fountain solution alcohol concentration. The hydrometer must:~~

~~——(I) Be corrected for temperature at least once for each 8-hour shift or once per batch, whichever is longer.~~

~~——(II) Have a visual, analog or digital readout with an accuracy of 0.5%.~~

~~——(III) Be calibrated with a standard solution for the type of alcohol used in the fountain solution.~~

~~(C)~~ A conductivity meter [shall be used] to determine the fountain solution VOC content. [The conductivity meter:

~~——(I) May only be used if the Department has determined[, in writing, that a refractometer or hydrometer cannot be used for monitoring the alcohol concentration of the fountain solution. Requests for the use of a conductivity meter must be submitted to the Department in writing.~~

~~(II)~~ Reading for the fountain solution must be referenced to the conductivity of the incoming water.

(vi) Another method [may be used] to determine compliance with the VOC content limits for fountain solutions in subsection (c)(2) if the [written request submitted to the Department for approval meets the] following requirements **ARE MET:**

(A) THE FACILITY OWNER OR OPERATOR SUBMITS A REQUEST, IN WRITING, TO THE APPROPRIATE REGIONAL OFFICE OF THE DEPARTMENT FOR APPROVAL OF THE ALTERNATIVE METHOD.

(B) The request demonstrates that the **ALTERNATIVE** method provides results that accurately determine the fountain solution VOC content.

~~**(B)**~~ **(C)** The Department provides prior written approval of the alternative method.

(3) **CLEANING SOLUTION.** The owner or operator of an offset lithographic printing press or a letterpress printing press subject to this section shall demonstrate compliance with the VOC content limit or VOC composite partial vapor pressure limit for cleaning **[materials]** **SOLUTIONS** in subsection (c)(1) by one or more of the following methods:

(i) Analysis of a sample of press-ready (as applied) cleaning **[material]** **SOLUTION** for VOC content using EPA Reference Method 24.

(ii) Use of the equation in subsection (j) to calculate the composite partial vapor pressure of the press-ready (as applied) cleaning **[material]** **SOLUTION.**

(iii) Use of the methods in subsection (k) to determine the **VOC COMPOSITE** partial vapor pressure of a single **CONCENTRATED** component ~~**[of the]**~~ **OR ADDITIVE USED TO PREPARE THE PRESS-READY (AS APPLIED)** cleaning **[material]** **SOLUTION.**

(iv) Maintenance onsite of MSDS, CPDS or other data provided by the manufacturer of the **PRESS-READY (AS APPLIED)** cleaning **[material]** **SOLUTION** that indicates the VOC content or the VOC composite partial vapor pressure, or both, of the press-ready (as applied) cleaning **[material]** **SOLUTION.**

(v) Calculation of the VOC content **OR THE VOC COMPOSITE PARTIAL VAPOR PRESSURE, OR BOTH,** of the press-ready (as applied) cleaning **[material]** **SOLUTION** that combines the EPA Reference Method 24 analytical VOC content data or analytical VOC **COMPOSITE** partial vapor pressure data for each of the concentrated **[materials]** **COMPONENTS OR ADDITIVES** used to prepare the press-ready (as applied) cleaning **[material]** **SOLUTION.**

(A) The VOC content data or VOC composite partial vapor pressure data for each of the concentrated **[materials]** **COMPONENTS OR ADDITIVES** shall be combined in the proportions in which the concentrated **[materials]** **COMPONENTS OR ADDITIVES** are mixed to make the batch of press-ready (as applied) cleaning **[material]** **SOLUTION.**

(B) The VOC content or VOC composite partial vapor pressure **[calculation]** shall be calculated **[once]** **ONE TIME** for each **RECIPE OF** press-ready (as applied) cleaning **[material and kept in the form of a batch log]** **SOLUTION. THE RECIPE NAME, VOC CONTENT OR VOC COMPOSITE PARTIAL VAPOR PRESSURE FOR EACH**

CONCENTRATED COMPONENT OR ADDITIVE AND CLEANING SOLUTION MIX RATIO SHALL BE RECORDED IN A LOG BOOK.

(C) The EPA Reference Method 24 analysis of the concentrated ~~[cleaning material]~~ **COMPONENTS OR ADDITIVES USED TO PREPARE THE PRESS-READY (AS APPLIED) CLEANING SOLUTION** may be performed or the VOC composite partial vapor pressure data may be determined by the supplier of the ~~[materials]~~ **COMPONENTS OR ADDITIVES** and these results provided to the owner or operator of the affected press.

(vi) Another method ~~[may be used]~~ to determine compliance with the VOC content limits for cleaning ~~[materials]~~ **SOLUTIONS** in subsection (c)(1) if the ~~[written request submitted to the Department for approval meets the]~~ following requirements **ARE MET:**

(A) THE FACILITY OWNER OR OPERATOR SUBMITS A REQUEST, IN WRITING, TO THE APPROPRIATE REGIONAL OFFICE OF THE DEPARTMENT FOR APPROVAL OF THE ALTERNATIVE METHOD.

(B) The request demonstrates that the **ALTERNATIVE** method provides results that accurately determine the cleaning ~~[material]~~ **SOLUTION** VOC content or VOC composite partial vapor pressure.

~~[(B)]~~ **(C)** The Department provides prior written approval of the alternative method.

(f) *Recordkeeping requirements.* Beginning ~~[January 1, 2013]~~ **JANUARY 1, 2015**, the owner or operator of a printing press subject to this section shall maintain records sufficient to demonstrate compliance with this section. ~~[At a minimum, the]~~ **RECORDS MAINTAINED FOR COMPLIANCE DEMONSTRATIONS MAY INCLUDE PURCHASE, USE, PRODUCTION AND OTHER RECORDS.**

(1) AN owner or operator **USING AN ADD-ON AIR POLLUTION CONTROL DEVICE** shall maintain ~~[daily records as follows]~~ **RECORDS SUFFICIENT TO DEMONSTRATE COMPLIANCE WITH SUBSECTION (e), INCLUDING THE FOLLOWING:**

(i) TEMPERATURE READING OF THE ADD-ON AIR POLLUTION CONTROL DEVICE.

(ii) MAINTENANCE PERFORMED ON THE ADD-ON AIR POLLUTION CONTROL DEVICE AND MONITORING EQUIPMENT, INCLUDING THE DATE AND TYPE OF MAINTENANCE.

(iii) CATALYST ACTIVITY TEST PERFORMED, IF APPLICABLE.

~~[(1) The following parameters for each ink, varnish, coating, adhesive, thinner or component, as supplied:~~

~~—(i) The name and identification number of the ink, varnish, coating, adhesive, thinner or component.~~

~~—(ii) The amount used.~~

~~—(iii) The density or specific gravity.~~

~~(iv) The VOC content (weight % or pounds/gallon).~~

~~—(2) The VOC content of each ink, varnish, coating or adhesive as applied.~~

~~—(3) The volume used of each ink, varnish, coating or adhesive as applied.~~

~~(4) The~~ **(2) AN OWNER OR OPERATOR SUBJECT TO SUBSECTION (a)(1)(i), (ii), (iii) OR (iv) SHALL MAINTAIN RECORDS OF CLEANING SOLUTIONS AND FOUNTAIN SOLUTIONS USED AT THE FACILITY, INCLUDING:**

(i) THE following parameters for each **PRESS READY** blanket, roller or other ~~[concentrated cleaning material used, as supplied]~~ **CLEANING SOLUTION:**

~~(i)~~ **(A)** The name and identification number for the blanket, roller or other ~~[concentrated cleaning material]~~ **CLEANING SOLUTION.**

~~—(ii) The amount used.~~

~~—(iii) The weight percent of total volatiles, water and exempt solvents.~~

~~—(iv) The density or specific gravity.~~

~~(v) One of the following:~~

~~—(A) VOC content (weight %).~~

~~—(B) Composite partial vapor pressure.~~

~~(5)~~ **(B)** The VOC content (**WEIGHT %**) or VOC composite partial vapor pressure of each cleaning ~~[material]~~ **SOLUTION** as applied.

~~[(6)]~~ **(C)** The volume used of each cleaning ~~[material]~~ **SOLUTION** as applied, **IF THE OWNER OR OPERATOR IS USING CLEANING SOLUTIONS WHICH EXCEED THE LIMITS IN SUBSECTION (c)(1)(i).**

(D) RECORDS OF CLEANING SOLUTION MONITORING AS REQUIRED BY SUBSECTION (e)(3).

~~[(7)]~~ **(ii)** The following parameters for each ~~[concentrated component or additive, as supplied, used to prepare the]~~ press-ready (as applied) fountain solution ~~[batch]~~:

~~[(i) The name and identification number of the component or additive.]~~

~~[(ii) The amount used.]~~

~~[(iii) The density or specific gravity.]~~

~~[(iv) The weight percent of total volatiles, water and exempt solvents of each concentrated component material or additive.]~~

~~[(v) The VOC content of each concentrated component or additive material (weight %).]~~

~~[(8)]~~ **(A)** The VOC content (weight %) ~~[of each batch of the press-ready (as applied) fountain solution].~~

(B) RECORDS OF FOUNTAIN SOLUTION MONITORING AS REQUIRED BY SUBSECTION (e)(2).

~~[(9) The volume used of each press-ready (as applied) fountain solution.]~~

(3) AN OWNER OR OPERATOR CLAIMING EXEMPTION FROM A VOC CONTROL PROVISION OF THIS SECTION BASED ON POTENTIAL OR ACTUAL VOC EMISSIONS, AS APPLICABLE, SHALL MAINTAIN RECORDS THAT DEMONSTRATE TO THE DEPARTMENT THAT THE PRESS OR FACILITY IS EXEMPT.

(4) THE OWNER OR OPERATOR MAY GROUP MATERIALS INTO CLASSES USING THE HIGHEST VOC CONTENT IN ANY MATERIAL IN A CLASS TO REPRESENT THAT CLASS OF MATERIAL.

(g) Reporting requirements. Beginning ~~[January 1, 2013]~~ **JANUARY 1, 2015**, the owner or operator of an offset lithographic printing press or a letterpress printing press subject to this section shall meet the following reporting requirements:

(1) The records required under subsection (f) shall be maintained **ON SITE** for 2 years unless a longer period is required ~~[under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements)]~~ **BY A PLAN APPROVAL OR OPERATING PERMIT ISSUED UNDER CHAPTER 127 (RELATING TO CONSTRUCTION, MODIFICATION, REACTIVATION AND OPERATION OF SOURCES)**. The records shall be submitted to the Department **IN AN ACCEPTABLE FORMAT** upon receipt of a written request.

(2) The owner or operator of an offset lithographic printing press **OR LETTERPRESS PRINTING PRESS** required to demonstrate **VOC** control efficiency in **ACCORDANCE**

WITH subsection (d) shall submit reports to the Department in accordance with Chapter 139 (relating to sampling and testing).

(h) *Sampling and testing.*

(1) Sampling and testing **SHALL BE PERFORMED AS FOLLOWS:**

(i) **SAMPLING OF AN INK, VARNISH, COATING, FOUNTAIN SOLUTION OR CLEANING SOLUTION AND TESTING FOR THE VOC CONTENT OF THE INK, VARNISH, COATING, FOUNTAIN SOLUTION OR CLEANING SOLUTION** shall be ~~[done]~~ **PERFORMED** in accordance with the procedures and test methods specified in Chapter 139 ~~[or with the following methods, or both:~~

~~—(1) **The overall efficiency of the add-on air pollution control device shall be determined by the following test methods and procedures:**~~

~~—(i) **The capture efficiency shall be determined in accordance with 40 CFR Part 51, Appendix M, Methods 204—204F, including updates and revisions].**~~

(ii) **SAMPLING AND TESTING OF AN ADD-ON AIR POLLUTION CONTROL DEVICE SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND TEST METHODS SPECIFIED IN CHAPTER 139 AND MEET ONE OF THE FOLLOWING:**

(A) **SAMPLING AND TESTING SHALL BE PERFORMED NO LATER THAN 180 DAYS AFTER THE COMPLIANCE DATE OF THE PRESS.**

(B) **SAMPLING AND TESTING SHALL HAVE BEEN PERFORMED WITHIN 5 YEARS PRIOR TO JANUARY 1, 2015, AND SHALL HAVE BEEN PREVIOUSLY APPROVED BY THE DEPARTMENT.**

(2) The control efficiency shall be determined ~~[in accordance with one of the following]~~ **USING ONE OR MORE OF THE FOLLOWING METHODS, AS APPLICABLE**, subject to prior written approval by the Department~~].~~ **THE METHOD USED TO MEASURE THE INLET CONCENTRATION OF VOC MAY BE THE SAME METHOD USED TO DETERMINE THE OUTLET CONCENTRATION OF VOC UNLESS USE OF THE SAME METHOD IS DETERMINED TO BE TECHNICALLY INFEASIBLE.**

~~[(A)]~~ (i) EPA Reference Method 25, *Determination of Total Gaseous Nonmethane Organic Emissions as Carbon*, found in 40 CFR Part 60, Appendix A, including updates and revisions. **EPA REFERENCE METHOD 25 MAY BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON.**

~~[(B)]~~ (ii) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, found in 40 CFR Part 60, Appendix A,

including updates and revisions. **EPA REFERENCE METHOD 25A MAY NOT BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION AT THE OUTLET OF THE ADD-ON AIR POLLUTION CONTROL DEVICE IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON.**

~~[(C) EPA Reference Method 25B, Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer, found in 40 CFR Part 60, Appendix A, including updates and revisions.]~~

(iii) **~~[The capture efficiency or control efficiency, or both, may be determined using an alternate method approved by the Department in writing, prior to testing. A request for the use of an alternative method must be submitted to the Department in writing.]~~** EPA REFERENCE METHOD 18, MEASUREMENT OF GASEOUS ORGANIC COMPOUND EMISSIONS BY GAS CHROMATOGRAPHY, FOUND IN 40 CFR PART 60, APPENDIX A, INCLUDING UPDATES AND REVISIONS. EPA REFERENCE METHOD 18 MAY BE USED IF THE TOTAL GASEOUS NONMETHANE ORGANIC COMPOUND CONCENTRATION IS EQUAL TO OR GREATER THAN 50 PARTS PER MILLION BY VOLUME, MEASURED AS CARBON. EPA REFERENCE METHOD 18 MAY BE USED IN CONJUNCTION WITH EPA REFERENCE METHOD 25A TO SUBTRACT EMISSIONS OF EXEMPT VOCs.

~~[(2) The constant negative pressure into the dryer, as required under subsection (d), must be demonstrated using an air flow direction measuring device or indicator, such as a smoke stick or aluminum ribbons.]~~

(3) OTHER TEST METHODS DEMONSTRATED TO PROVIDE RESULTS THAT ARE ACCEPTABLE FOR PURPOSES OF DETERMINING COMPLIANCE WITH THIS SECTION MAY BE USED IF PRIOR APPROVAL IS OBTAINED IN WRITING FROM THE DEPARTMENT AND THE EPA.

(i) *Work practice requirements for cleaning **[materials]** ACTIVITIES.*

(1) **[Beginning January 1, 2013]** EXCEPT AS SPECIFIED IN PARAGRAPH (3), BEGINNING JANUARY 1, 2015, the owner or operator of an offset lithographic printing press or a letterpress printing press subject to **[this section]** SUBSECTION (a)(1)(i), (ii), (iii) OR (iv) shall comply with the following work practices for cleaning activities at the facility:

(i) Store all VOC-containing cleaning **[materials]** SOLUTIONS, waste cleaning **[materials]** SOLUTIONS and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning **[materials]** SOLUTIONS **[and]**, waste cleaning **[materials]** SOLUTIONS AND USED SHOP TOWELS are kept closed at all times, except when depositing or removing these **[materials]** SOLUTIONS OR SHOP TOWELS.

(iii) Minimize spills of VOC-containing cleaning [materials] SOLUTIONS and waste cleaning [materials] SOLUTIONS and clean up spills immediately.

(iv) Convey VOC-containing cleaning [materials] SOLUTIONS [and], waste cleaning [materials] SOLUTIONS AND USED SHOP TOWELS from one location to another in closed containers or pipes.

(2) The requirements in paragraph (1) apply to the following activities:

(i) Cleaning of a press, including blanket washing, roller washing, plate cleaners, metering roller cleaners, impression cylinder cleaners and rubber rejuvenators.

(ii) Cleaning of press parts, including press parts that have been removed from the press for cleaning.

(iii) Cleaning of ink, coating or adhesive from areas around a press.

(3) The requirements in paragraph (1) do not apply to the following activities:

(i) Cleaning electronic components of a press.

(ii) Cleaning in pre-press (~~[that is]~~ FOR EXAMPLE, platemaking) operations.

(iii) Cleaning in post-press (~~[that is]~~ FOR EXAMPLE, binding) operations.

(iv) Using janitorial supplies (for example, detergents or floor cleaners) for general cleaning around a press.

(v) The use of parts washers or cold cleaners at an offset lithographic printing or a letterpress printing facility. The use of parts washers and cold cleaners is regulated under § 129.63 (relating to degreasing operations).

(j) *Composite partial vapor pressure.* The composite partial vapor pressure of organic compounds in cleaning [materials] SOLUTIONS shall be determined by ONE OF the following [procedure] PROCEDURES:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using [the following methods]:

~~(i) ASTM E260, Standard Practice for Packed Column Gas Chromatography, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 for organic content, including updates and revisions.~~

~~—(ii) ASTM D3792, Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 for water content, including updates and~~

revisions] AN APPROPRIATE AND CURRENT ASTM TEST METHOD WITH PRIOR WRITTEN APPROVAL BY THE DEPARTMENT.

(2) Calculating the composite partial vapor pressure using the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i) (VP_i)/MW_i}{\frac{k}{W_w/MW_w} + \sum_{e=1}^n \frac{W_e/MW_e}{i=1} + \sum_{i=1}^n \frac{W_i/MW_i}{i=1}}$$

Where:

PP_c = VOC composite partial vapor pressure at 20°C, in mm mercury.

W_i = Weight of the "i"th VOC compound, in grams [~~as determined by ASTM E260~~].

W_w = Weight of water, in grams [~~as determined by ASTM D3792~~].

W_e = Weight of the "e"th exempt compound, in grams [~~as determined by ASTM E260~~].

MW_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.

MW_w = Molecular weight of water, in [~~g/g-mole~~] **GRAMS PER G-MOLE** (18 grams per g-mole).

MW_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.

VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm mercury, as determined by subsection (k).

(k) *Determination of vapor pressure of single organic compounds in cleaning* [~~materials~~] **SOLUTIONS**. The vapor pressure of each single component compound shall be determined from one or more of the following:

(1) [~~ASTM D2879, Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959, including updates and revisions~~] **AN APPROPRIATE AND CURRENT ASTM TEST METHOD WITH PRIOR WRITTEN APPROVAL BY THE DEPARTMENT.**

(2) The most recent edition of one or more of the following sources:

(i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company, New York.

(ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.

(iii) *CRC Handbook of Chemistry and Physics*, CRC Press.

(iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(v) Additional sources approved by the Department.

(1) VOC RETENTION FACTORS AND CAPTURE EFFICIENCY FACTORS. AS SPECIFIED IN SUBSECTION (a)(2), IF:

(1) A PORTION OF THE VOCs CONTAINED IN THE INK OR CLEANING SOLUTION, OR BOTH, IS RETAINED IN THE PRINTED WEB SUBSTRATE OR IN THE SHOP TOWELS USED FOR CLEANING, THE FOLLOWING VOC EMISSION RETENTION FACTORS SHALL BE USED, AS APPLICABLE:

(i) A 20% VOC EMISSION RETENTION FACTOR FOR A PETROLEUM INK OIL-BASED HEATSET INK PRINTED ON AN ABSORPTIVE SUBSTRATE, MEANING 80% OF THE PETROLEUM INK OIL CONTENT IS EMITTED AS VOC DURING THE PRINTING PROCESS AND IS AVAILABLE FOR CAPTURE AND CONTROL BY AN ADD-ON AIR POLLUTION CONTROL DEVICE. THE PETROLEUM INK OIL CONTENT OF A HEATSET INK MAY BE DETERMINED FROM FORMULATION DATA INCLUDED ON A CPDS OR MSDS.

(ii) A 95% VOC EMISSION RETENTION FACTOR FOR A PETROLEUM INK OIL-BASED NON-HEATSET WEB OR NON-HEATSET SHEET-FED INK, MEANING 5% OF THE PETROLEUM INK OIL CONTENT IS EMITTED AS VOC DURING THE PRINTING PROCESS AND IS AVAILABLE FOR CAPTURE AND CONTROL BY AN ADD-ON AIR POLLUTION CONTROL DEVICE. THE PETROLEUM INK OIL CONTENT OF A NON-HEATSET WEB OR NON-HEATSET SHEET-FED INK MAY BE DETERMINED FROM FORMULATION DATA INCLUDED ON A CPDS OR MSDS.

(iii) A 100% VOC EMISSION RETENTION FACTOR FOR VEGETABLE INK OIL-BASED HEATSET AND NON-HEATSET INKS.

(iv) A 50% VOC EMISSION RETENTION FACTOR FOR LOW VOC COMPOSITE VAPOR PRESSURE CLEANING SOLUTIONS IN SHOP TOWELS IF BOTH OF THE FOLLOWING CONDITIONS ARE MET:

(A) THE VOC COMPOSITE VAPOR PRESSURE OF THE CLEANING SOLUTION IS LESS THAN 10mm Hg AT 20°C (68°F).

(B) THE CLEANING SOLUTIONS AND USED SHOP TOWELS ARE KEPT IN CLOSED CONTAINERS.

(2) A PORTION OF THE VOCs CONTAINED IN ONE OR MORE OF THE INK, FOUNTAIN SOLUTION OR AUTOMATIC BLANKET WASH MATERIALS IS CAPTURED IN THE PRESS DRYER FOR CONTROL BY THE ADD-ON AIR POLLUTION CONTROL DEVICE, THE FOLLOWING CAPTURE EFFICIENCY FACTORS SHALL BE USED, AS APPLICABLE:

(i) A 100% VOC EMISSION CAPTURE EFFICIENCY FOR VOLATILIZED INK OILS FOR OIL-BASED HEATSET PASTE INKS AND VARNISHES AS SPECIFIED IN PARAGRAPH (1) IF BOTH OF THE FOLLOWING CONDITIONS ARE MET:

(A) THE PRESS DRYER IS OPERATING AT NEGATIVE PRESSURE RELATIVE TO THE SURROUNDING PRESSROOM.

(B) THE AIR FLOW IS INTO THE PRESS DRYER.

(ii) A 70% VOC EMISSION CAPTURE EFFICIENCY FOR A FOUNTAIN SOLUTION THAT CONTAINS AN ALCOHOL SUBSTITUTE.

(iii) A 40% VOC EMISSION CAPTURE EFFICIENCY FOR AN AUTOMATIC BLANKET WASH IF THE VOC COMPOSITE VAPOR PRESSURE OF THE CLEANING SOLUTION IS LESS THAN 10mm Hg AT 20°C (68°F).

§ 129.77. Control of emissions from the use or application of adhesives, sealants, primers and solvents.

* * * * *

(k) This section does not apply to the use or application of the following compounds or products:

* * * * *

(2) Adhesives, sealants, adhesive primers or sealant primers that are subject to [§ 129.73 (relating to aerospace manufacturing and rework) or Chapter 130, Subchapter B or C (relating to consumer products; and architectural and industrial maintenance coatings)] other sections in this chapter or Chapter 130 (relating to standards for products).

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**CHAPTER 130. STANDARDS FOR PRODUCTS
Subchapter D. ADHESIVES, SEALANTS, PRIMERS AND SOLVENTS
GENERAL PROVISIONS**

§ 130.703. Exemptions and exceptions.

(a) This subchapter does not apply to the use, application, sale, supply, offer for sale or manufacture for sale for use in this Commonwealth of the following compounds or products:

* * * * *

(2) Adhesives, sealants, adhesive primers or sealant primers that are subject to [**§ 129.73 (relating to aerospace manufacturing and rework) or Chapter 130, Subchapter B or C (relating to consumer products; and architectural and industrial maintenance coatings)**] other sections in this chapter or Chapter 129 (relating to standards for sources).

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