

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:

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**Coating line**—The equipment and activities of the manufacturing process used to apply coatings onto or into a substrate.

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**Paper, film or foil coating or paper, film or foil surface coating**—Coatings applied in a uniform layer to paper and pressure-sensitive tapes regardless of substrate. The term includes related web coating processes on plastic films and decorative coatings on metal foil. The term does not include coatings applied in whole or in part as nonuniform layers such as patterns, designs or print.

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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 may be achieved by alternative methods if the following exist:

\* \* \* \* \*

(3) Compliance by a method other than the use of a low VOC coating or ink which meets the applicable emission limitation in §§ 129.52, **129.52a, 129.52b, 129.52c**, 129.67 and 129.73 [(relating to surface coating processes; graphic arts systems; and

aerospace manufacturing and rework)] 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, § 129.68(b)(2) and (c)(2) or § 129.73.

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**§ 129.52. Surface coating processes.**

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**(i) Beginning January 1, 2011, the requirements and limits for metal furniture coatings, large appliance coatings and paper coatings are superseded by the requirements and limits in §§ 129.52a and 129.52b (relating to control of VOC emissions from large appliance and metal furniture surface coating processes; and control of VOC emissions from paper, film and foil surface coating processes), respectively.**

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[Editor's note: Section 129.52b is new and printed in regular type to enhance readability.]

**§ 129.52b. Control of VOC emissions from paper, film and foil surface coating processes.**

(a) *Applicability.* This section applies to the owner and operator of a paper, film or foil surface coating process, as follows, if the surface coating process meets one or both of the following:

(1) The emission limits and other requirements of this section apply to the owner and operator of a paper, film or foil surface coating process if an individual paper, film or foil surface coating line has a potential to emit at least 25 tpy of VOC from coatings, prior to controls. For these processes, the emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52 (relating to surface coating processes).

(2) The work practice requirements for cleaning materials found in subsection (h), and the related compliance monitoring and recordkeeping and reporting requirements of subsections (d)(3), (d)(4) and (e), apply to the owner and operator of a paper, film or foil surface coating process if the total actual VOC emissions from all paper, film or foil surface coating operations, including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(b) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a) prior to January 1, 2011, under §§ 129.91 – 129.95 (relating to stationary sources of NOx and VOCs) to control, reduce or minimize VOCs from a paper, film or foil surface coating process, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2011, a person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from a paper, film or foil surface coating process, unless one of the following limitations is met:

(1) The VOC content of each as applied coating is equal to or less than the limit specified in Table I.

(i) The VOC content of the as applied coating, expressed in units of weight of VOC per weight of coating solids, shall be calculated as follows:

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

Where:

$\text{VOC}_B$  = VOC content in lb VOC/lb of coating solids

$W_o$  = 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 coating

(ii) The VOC content of a dip coating, expressed in units of weight of VOC per weight of coating solids, shall be calculated on a 30-day rolling average basis using the following equation:

$$\text{VOC}_A = \frac{\sum_i (W_{oi} \times D_{ci} \times Q_i) + \sum_j (W_{oj} \times D_{dj} \times Q_j)}{\sum_i (W_{ni} \times D_{ci} \times Q_i)}$$

Where:

$\text{VOC}_A$  = VOC content in lb VOC/lb of coating solids for a dip coating, calculated on a 30-day rolling average basis

$W_{oi}$  = Percent VOC by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction (that is 55% = 0.55)

$D_{ci}$  = Density of each as supplied coating (i) added to the dip coating process, in pounds per gallon

$Q_i$  = Quantity of each as supplied coating (i) added to the dip coating process, in gallons

$W_{ni}$  = Percent solids by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction

$W_{oJ}$  = Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction

$D_{dJ}$  = Density of each thinner (J) added to the dip coating process, in pounds per gallon

$Q_J$  = Quantity of each thinner (J) added to the dip coating process, in gallons

(iii) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery or incineration or another method that is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139, may be no less than 90% or may be no less than the equivalent overall efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

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

E = The Table I limit in lb VOC /lb of coating solids.

O = The overall required control efficiency.

(d) *Compliance monitoring procedures.* The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance as follows:

(1) The owner or operator of a facility subject to subsection (a)(1) shall maintain daily records of the following parameters for each coating, thinner, component or cleaning solvent, as supplied:

(i) Name and identification number of the coating, thinner, component or cleaning solvent.

(ii) Volume used.

(iii) Mix ratio.

(iv) Density or specific gravity.

(v) Weight percent of total volatiles, water, solids and exempt solvents.

(vi) VOC content.

(2) The owner or operator of a facility subject to subsection (a)(1) shall maintain daily records of the VOC content of each as applied coating or cleaning solvent.

(3) The owner or operator of a facility subject to subsection (a)(2) shall maintain daily records of the following parameters for each cleaning solvent, as supplied:

(i) Name and identification number of the cleaning solvent.

(ii) Volume used.

(iii) Weight percent of total volatiles, water and exempt solvents.

(iv) VOC content.

(4) The owner or operator of a facility subject to subsection (a)(2) shall maintain daily records of the VOC content of each as applied cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be maintained for 2 years and submitted to the Department on request.

(f) *Coating application methods.* A person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of paper, film or foil surface coatings, unless the coatings are applied using one or more of the following coating application methods:

(1) Rotogravure coating.

(2) Reverse roll coating.

(3) Knife coating.

(4) Dip coating.

(5) Slot die coating.

(6) Flexographic coating.

(7) Extrusion coating.

(8) Calendaring.

(9) Other coating application method, if approved in writing by the Department prior to the use of the application method.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by a method listed in paragraphs (1)-(8).

(ii) The request for approval must be submitted in writing by the owner or operator of the paper, film or foil surface coating facility.

(g) *Exempt coatings.* The VOC coating content limits in Table I do not apply to a coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:

(1) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(2) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(h) *Work practice requirements for cleaning materials.* The owner or operator of a paper, film or foil surface coating process subject to subsection (a)(2) shall comply with the following work practices for cleaning materials:

(1) Store all VOC-containing cleaning materials and used shop towels in closed containers.

(2) Ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times, except when depositing or removing these materials.

(3) Minimize spills of VOC-containing cleaning materials and clean up spills immediately.

(4) Convey VOC-containing cleaning materials from one location to another in closed containers or pipes.

(5) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.

**Table I**

**Emission Limits of VOCs for Paper, Film and Foil Surface Coatings**

**Weight of VOC per Weight of Coating Solids, as Applied**

<b>Units</b>	<b>RACT Limits</b>	
	<b>Pressure Sensitive Tape and Label Surface Coating</b>	<b>Paper, Film, and Foil Surface Coating (Not including Pressure Sensitive Tape and Label Surface Coating)</b>
kg VOC/kg solids (lb VOC/lb solids)	0.20	0.40
kg VOC/kg coating (lb VOC/lb coating)	0.067	0.08