CHAPTER 129. STANDARDS FOR SOURCES

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Source

The provisions of this Chapter 129 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804, unless otherwise noted.

Cross References


§ 129.1. [Reserved].

Source


§ 129.2. [Reserved].

Source


§ 129.3. [Reserved].

Source


§ 129.4. [Reserved].

Source

§ 129.5. [Reserved].

Source

§ 129.6. [Reserved].

Source

MISCELLANEOUS SOURCES

§ 129.11. Nitric acid plants.
No person may permit the emission into the outdoor atmosphere, at any time, from a nitric acid production plant or facility, of nitrogen oxides, expressed as NO₂, in excess of the rate of 5.5 pounds per ton of acid produced, the production being expressed as 100% HNO₃.

Source

§ 129.12. Sulfuric acid plants.
No person may permit the emission into the outdoor atmosphere, at any time, from a sulfuric acid production plant or facility, of:

(1) Sulfur oxides, expressed as SO₂, in excess of the rate of 6.5 pounds per ton of acid produced.

(2) Sulfuric acid mist in excess of the rate of .5 pound per ton of acid produced, the production being expressed as 100% H₂SO₄.

Source

Cross References
This section cited in 25 Pa. Code § 123.23 (relating to byproduct coke oven gas).
§ 129.13. Sulfur recovery plants.
(a) No person may permit the emission into the outdoor atmosphere, at any time, from a plant used for recovering elemental sulfur from gases containing sulfur compounds, of sulfur oxides, expressed as SO₂, in excess of the rate determined by the formula:
\[ A = 0.32E^{-0.5} \]
where:
A = Allowable emissions in pounds of sulfur oxides per pound of sulfur compounds, expressed as S, in the feed gases, and
E = Recovery plant rating in long tons of sulfur per day.
(b) Allowable emissions under this section are graphically indicated in Appendix A.

Source

Cross References
This section cited in 25 Pa. Code § 123.23 (relating to byproduct coke oven gas).

(a) Air basins. No person may permit the open burning of material in an air basin.
(b) Outside of air basins. No person may permit the open burning of material in an area outside of air basins in a manner that:
   (1) The emissions are visible, at any time, at the point such emissions pass outside the property of the person on whose land the open burning is being conducted.
   (2) Malodorous air contaminants from the open burning are detectable outside the property of the person on whose land the open burning is being conducted.
   (3) The emissions interfere with the reasonable enjoyment of life or property.
   (4) The emissions cause damage to vegetation or property.
   (5) The emissions are or may be deleterious to human or animal health.
(c) Exceptions. The requirements of subsections (a) and (b) do not apply where the open burning operations result from:
   (1) A fire set to prevent or abate a fire hazard, when approved by the Department and set by or under the supervision of a public officer.
   (2) Any fire set for the purpose of instructing personnel in fire fighting, when approved by the Department.
   (3) A fire set for the prevention and control of disease or pests, when approved by the Department.
(4) A fire set in conjunction with the production of agricultural commodities in their unmanufactured state on the premises of the farm operation.

(5) A fire set for the purpose of burning domestic refuse, when the fire is on the premises of a structure occupied solely as a dwelling by two families or less and when the refuse results from the normal occupancy of the structure.

(6) A fire set solely for recreational or ceremonial purposes.

(7) A fire set solely for cooking food.

(d) Clearing and grubbing wastes. The following is applicable to clearing and grubbing wastes:

(1) As used in this subsection the following terms shall have the following meanings:

Air curtain destructor—A mechanical device which forcefully projects a curtain of air across a pit in which open burning is being conducted so that combustion efficiency is increased and smoke and other particulate matter are contained.

Clearing and grubbing wastes—Trees, shrubs and other native vegetation which are cleared from land during or prior to the process of construction. The term does not include demolition wastes and dirt laden roots.

(2) Subsection (a) notwithstanding, clearing and grubbing wastes may be burned in a basin subject to the following requirements:

(i) Air curtain destructors shall be used when burning clearing and grubbing wastes.

(ii) Each proposed use of air curtain destructors shall be reviewed and approved by the Department in writing with respect to equipment arrangement, design and existing environmental conditions prior to commencement of burning. Proposals approved under this subparagraph need not obtain plan approval or operating permits under Chapter 127 (relating to construction, modification, reactivation and operation of sources).

(iii) Approval for use of an air curtain destructor at one site may be granted for a specified period not to exceed 3 months, but may be extended for additional limited periods upon further approval by the Department.

(iv) The Department reserves the right to rescind approval granted if a determination by the Department indicates that an air pollution problem exists.

(3) Subsection (b) notwithstanding clearing and grubbing wastes may be burned outside of an air basin, subject to the following limitations:

(i) Upon receipt of a complaint or determination by the Department that an air pollution problem exists, the Department may order that the open burning cease or comply with subsection (b).

(ii) Authorization for open burning under this paragraph does not apply to clearing and grubbing wastes transported from an air basin for disposal outside of an air basin.
(4) During an air pollution episode, open burning is limited by Chapter 137 (relating to air pollution episodes) and shall cease as specified in that chapter.

Source

Notes of Decisions
A contractor who bids on a public works project and is given notice of the type of burning and disposal permitted under DER regulations is not entitled to additional compensation on the theory that the contractor was unaware that the project area was located in an air basin. Hempt Brothers, Inc. v. Department of Transportation, 388 A.2d 761, 763, (Pa. Cmwlth. 1978).

§ 129.15. Coke pushing operations.
(a) No person may permit the pushing of coke from a coke oven unless the pushing operation is enclosed during the removal of coke from a coke oven and pushing emissions are contained, except for the fugitive pushing emissions, that are allowed by subsections (c) and (e). A device for the enclosure of pushing operations shall be subject to the requirements of Chapter 127 (relating to construction, modification, reactivation and operation of sources) and the grant of plan approval.

(b) An application submitted to the Department under Chapter 127 for approval to install an air cleaning device designed to achieve compliance with subsection (a) at an existing coke oven battery shall, in addition to the requirements of §§ 123.13(b) and 127.12(a) (relating to processes; and content of applications), show that the air cleaning device is designed to reduce the fugitive emissions from pushing operations at a battery to the minimum attainable through the use of the best available technology following control.

(c) Visible fugitive air contaminants in excess of 20% opacity from an air cleaning device installed for the control of pushing emissions under a plan approval from the Department shall be prohibited unless the Department finds that:

(1) The emissions are of minor significance with respect to causing air pollution.

(2) The emissions will not prevent or interfere with the attainment or maintenance of any ambient air quality standard.

(d) Application for a finding under subsection (c) shall be filed in accordance with § 123.1(b) (relating to prohibition of certain fugitive emissions).

(e) No person may transport hot coke in the open atmosphere during the pushing operation, unless the visible fugitive air contaminants from the coke do not exceed 10% opacity.
§ 129.16. Door maintenance, adjustment and replacement practices.

(a) In the event a coke oven battery fails to comply with the emission standards contained in § 123.44(a)(2) or (3) (relating to limitations of visible fugitive air contaminants from operation of any coke oven battery) at any time after the effective date of the standards at a coke oven battery, the person responsible for the operation of such coke oven battery shall take the following action:

(1) Implement the following work practices:

(i) **Self-sealing coke oven doors.** Work practices for self-sealing coke oven doors shall conform with the following:

   (A) Within 1 hour after the charge of each oven, the oven doors shall be inspected for visible emissions, and doors found leaking shall be recorded.

   (B) Doors leaking 1 hour after the charge shall be adjusted prior to the end of the second hour after the charge.

   (C) Each oven door leaking 1 hour after the charge shall be reinspected for visible emissions 2 hours after the charge. A record shall be made of a door leaking 2 hours after the charge.

   (D) A door leaking 2 hours after each of two successive charges shall be replaced with a repaired, rebuilt or new door prior to the next charge to that oven.

   (E) An adequate supply of repaired, rebuilt and new doors shall be maintained onsite to allow the frequency of replacement necessary to comply with this subsection.

   (F) If a newly installed, repaired, rebuilt or new door leaks more than 2 hours after charge, the door and jamb shall be inspected when the door is next removed from the oven. If the door is found to be defective, it shall be replaced with a repaired, rebuilt or new door prior to the next charge to that oven. If the door is not found to be defective, the jamb shall be replaced prior to the next charge to that oven.

(ii) **Luted doors.** Work practices for luted doors shall conform with the following:

   (A) Luted doors leaking 15 minutes after the charge shall be immediately reluted.

   (B) Doors which fail to seal after the first reluting shall be recorded.
(C) Leaks appearing after the first reluting shall be immediately alluted.

(iii) Chuck doors. Work practices for chuck doors shall conform with the following:

(A) Within 1 hour after the charge of each oven, the chuck door shall be inspected and a door found leaking shall be recorded.

(B) Chuck doors leaking 1 hour after the charge shall be gasketed prior to the next charge to that oven.

(C) If a freshly gasketed door is leaking 1 hour after the charge, it or the oven door shall be replaced prior to the next charge to that oven.

(iv) Cleaning. Doors and jambs shall be completely cleaned prior to each charge.

(2) Keep and maintain records of the inspections required by paragraph (1), including the names of inspectors, the date and time of each door inspection and ovens observed leaking.

(3) Within 90 days following a determination by the Department or the battery operator that this section is applicable, the person responsible for the operation of a coke oven battery shall submit to the Department for approval a work practice and maintenance manual which shall include, but not be limited to, the job titles of persons having responsibility for the various tasks required by paragraph (1), specify procedures to be followed to assure implementation of the requirements of paragraph (1), and state the numbers of replacement doors and jambs to be kept on site for each battery.

(b) In addition to, or as a substitute for, the requirements of subsection (a)(1)—(3), the Department may issue an order establishing further obligations with respect to the control of door area emissions in the event compliance with § 123.44(a)(2) and (3) is not consistently achieved within the time allowed by an approved deferred compliance schedule. The obligations may include, but is not limited to, the specification of the maintenance and work practices as the Department finds will achieve consistent compliance with the standards and the installation of best available technology for door sealing or for the capture and cleaning of door area emissions.

Source

The provisions of this § 129.16 adopted August 12, 1977, effective December 12, 1977, 7 Pa.B. 2251.

§ 129.17. Kraft pulp mills.

(a) A person may not cause or permit the emission into the outdoor atmosphere of total reduced sulfur from kraft pulp mills in excess of the quantities in the following table:

(380385) No. 500 Jul. 16
Recovery furnace—old design (without welded wall or membrane wall construction or emission-control designed air systems) | 20 | 12 hour average—corrected to 8% oxygen by volume.
---|---|---
Recovery furnace—new design (with both welded wall or membrane wall construction or emission-control designed air systems) | 5 | 12 hour average—corrected to 8% oxygen by volume.
Lime kiln (a rotary or fluosolid unit used to calcine calcium carbonate into calcium oxide) | 20 | Never to be exceeded—corrected to 10% oxygen by volume.
Digester systems (continuous or batch process for cooking wood chips in sodium hydroxide and sodium sulfide to produce cellulosic material) | 5 | Never to be exceeded.
Multiple effect evaporator system (vapor heads, heating elements, hot wells, condensers and associated equipment used to concentrate spent pulp mill cooking liquid) | 5 | Never to be exceeded.
Smelt dissolving tank (the vessel used to produce an aqueous solution from the molten mixture discharged from the floor of a recovery furnace) | 20 | Never to be exceeded.

(b) Total reduced sulfur emissions shall be monitored continuously at recovery furnaces, digester systems and multiple effect evaporator systems unless emissions are incinerated at 1,200°F for .5 seconds or incinerated to provide equivalent total reduced sulfur control.

1. Monitors, installation, operation, maintenance and reporting shall be as prescribed in Chapter 139 (relating to sampling and testing).
2. TRS monitoring systems installed under this section shall meet the minimum data availability requirements in Chapter 139 Subchapter C (relating to requirements for source monitoring for stationary sources).
3. The Department may use the data from the monitoring systems or from an alternate monitoring system to determine compliance with subsection (a).
4. Source owners and operators shall achieve compliance with these monitoring provisions by May 7, 1991.
(c) Compliance with subsection (a) shall be achieved in accordance with the following schedule:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>MONTHS AFTER MAY 7, 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXISTING SOURCES</td>
</tr>
<tr>
<td>Submit for Department approval</td>
<td>6</td>
</tr>
<tr>
<td>a plan for achieving compliance</td>
<td></td>
</tr>
<tr>
<td>Submit for Department approval</td>
<td>12</td>
</tr>
<tr>
<td>a plan of necessary equipment</td>
<td></td>
</tr>
<tr>
<td>Issue purchase orders</td>
<td>24</td>
</tr>
<tr>
<td>Achieve compliance</td>
<td>36</td>
</tr>
</tbody>
</table>

Authority
The provisions of this § 129.17 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

§ 129.18. Municipal waste incinerators.
(a) The conditions of this section apply to municipal waste incinerators.
(b) The Department may require continuous monitoring for chemical species or process parameters which may include the following:
   (1) Hydrogen chloride (HCl).
   (2) Sulfur dioxide (SO₂).
   (3) Nitrogen oxides (NOₓ).
   (4) Carbon monoxide (CO).
   (5) Combustion Efficiency (C. E.)
   (6) Temperature.
   (7) Opacity.
   (8) Oxygen (O₂).
(c) Continuous monitoring systems installed under this section shall meet the minimum data availability requirements in Chapter 139 Subchapter C (relating to requirements for source monitoring for stationary sources).

Authority
The provisions of this § 129.18 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

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(393455) No. 528 Nov. 18
§ 129.51. General.

(a) Equivalency. Compliance with §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, 129.54—129.63, 129.63a, 129.64—129.67, 129.67a, 129.67b, 129.68, 129.69, 129.71—129.73 and 129.77 may be achieved by alternative methods if all of the following exist:

(1) The alternative method is approved by the Department in an applicable plan approval or operating permit, or both.

(2) The resulting emissions are equal to or less than the emissions that would have been discharged by complying with the applicable emission limitation.

(3) Compliance by a method other than the use of a low VOC coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent, cleanup solvent, cleaning solution, fountain solution or ink which meets the applicable emission limitation in §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, 129.63a, 129.67, 129.67a, 129.67b, 129.68, 129.69, 129.71—129.73 and 129.77 shall be determined on the basis of equal volumes of solids.

(4) Capture efficiency testing and emissions testing are conducted in accordance with methods approved by the EPA.

(5) Adequate records are maintained to ensure enforceability.

(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, § 129.52d, § 129.52e, § 129.63a, § 129.67, § 129.67a, § 129.67b, § 129.68(b)(2) and (c)(2), § 129.73 or § 129.77.

(b) New source performance standards. Sources covered by new source performance standards which are more stringent than those contained in this chapter shall comply with those standards in lieu of the standards in this chapter.

(c) Demonstration of compliance. 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 limitation or control 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 maintained onsite 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.

(e) Demonstration of exempt status. The owner or operator of a facility or source claiming that 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.

Authority

The provisions of this § 129.51 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 127.44 (relating to public notice); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.73 (relating to aerospace manufacturing and rework); 25 Pa. Code § 129.81 (relating to organic liquid cargo vessel loading and ballasting); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.52. Surface coating processes.

(a) This section applies to a surface coating process category, regardless of the size of the facility, which emits or has emitted VOCs into the outdoor atmosphere in quantities greater than 3 pounds (1.4 kilograms) per hour, 15 pounds (7 kilograms) per day or 2.7 tons (2,455 kilograms) per year during any calendar year since January 1, 1987.

(b) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from a surface coating process category listed in Table I, unless one of the following limitations is met:

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

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

\[ VOCS = \frac{(Wv)(Dc)}{V_n} \]

Where:

\[ VOCS = \text{VOC content in lb VOC/gal of coating solids} \]

\[ Wv = \text{Weight percent of VOC} \]

\[ W_0 = \text{Weight percent of total volatiles (100%-weight percent solids)} \]

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W_w = Weight percent of water
W_ex = Weight percent of exempt solvent(s)
D_c = Density of coating, lb/gal, at 25°C
V_n = Volume percent of solids of the as applied coating

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

\[
\text{VOC}_A = \frac{\sum_i (W_{oi} \times D_{ci} \times Q_i) + \sum_j (W_{oJ} \times D_{dJ} \times Q_J)}{\sum_i (V_{ni} \times Q_i)}
\]

Where:
- VOC_A = VOC content in lb VOC/gal 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
- V_{ni} = Percent solids by volume 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) 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:

\[
\text{VOC}_B = \frac{W_o}{W_n}
\]

Where:
- 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

(iv) 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 which 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 shall be no less than the equivalent overall efficiency calculated by the following equation:
Where:

\( O = (1 - \frac{E}{V}) \times 100 \)

- \( V \) = The VOC content of the as applied coating, in lb VOC/gal of coating solids or lb VOC/lb of coating solids.
- \( E \) = Table I limit in lb VOC/gal of coating solids or lb VOC/lb of coating solids.
- \( O \) = Overall control efficiency.

(c) A facility, regardless of the facility’s annual emission rate, which contains surface coating processes shall maintain records sufficient to demonstrate compliance with this section. At a minimum, a facility shall maintain daily records of:

1. The following parameters for each coating, thinner and other component as supplied:
   - The coating, thinner or component name and identification number.
   - The volume used.
   - The mix ratio.
   - The density or specific gravity.
   - The weight percent of total volatiles, water, solids and exempt solvents.
   - The volume percent of solids for Table I surface coating process categories 1—10.

2. The VOC content of each coating, thinner and other component as supplied.

3. The VOC content of each as applied coating.

(d) The solvents methyl chloroform (1,1,1-trichloroethane) and methylene chloride are exempt from control under this section and § 129.67 (relating to graphic arts systems). A surface coating process which seeks to comply with this section through the use of an exempt solvent may not be included in any alternative standards.

(e) If more than one emission limitation under miscellaneous metal parts and products applies to a specific coating, the least stringent emission limitation applies.

(f) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of wood furniture coatings unless the coatings are applied using electrostatic, airless, curtain coating, roller coating, hand roller, hand brush, flow coating, dip coating or high volume-low pressure application equipment. Air atomized sprays may be used to apply cosmetic specialty coatings if the volume of the cosmetic specialty coatings is less than 5% by volume of the total coating used at the facility or to apply final repair coatings.

(g) The records shall be maintained onsite for 2 years, unless a longer period is required by an order, 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 on a schedule reasonably prescribed by the Department.
(h) The VOC standards in Table I do not apply to a coating used exclusively for
determining product quality and commercial acceptance, touch-up and repair
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.

(i) Beginning January 1, 2011, the requirements and limits for metal furni-
ture coatings and large appliance coatings in this section are superseded by the
requirements and limits in § 129.52a (relating to control of VOC emissions from
large appliance and metal furniture surface coating processes).

(j) Beginning January 1, 2012, the requirements and limits for paper coatings
in this section are superseded by the requirements and limits in § 129.52b (relat-
ing to control of VOC emissions from paper, film and foil surface coating pro-
cesses).

(k) Section 129.52d(a)(5)(i) (relating to control of VOC emissions from mis-
cellaneous metal parts surface coating processes, miscellaneous plastic parts sur-
face coating processes and pleasure craft surface coatings) applies to surface
coating processes regulated under Table I, Category 10, miscellaneous metal parts
and products. Aerosol coatings must meet the requirements of 40 CFR Part 59,
Subpart E (relating to National volatile organic compound emission standards for
aerosol coatings).

Table I
Emission Limits of VOCs in Surface Coatings by Process Category

<table>
<thead>
<tr>
<th>Surface Coating Process Category</th>
<th>Weight of VOC per Volume of Coating Solids</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lbs</td>
</tr>
<tr>
<td></td>
<td>VOC</td>
</tr>
<tr>
<td></td>
<td>coating</td>
</tr>
<tr>
<td>1. Can coating</td>
<td>4.62</td>
</tr>
<tr>
<td>(a) sheet basecoat</td>
<td></td>
</tr>
<tr>
<td>(b) can exterior</td>
<td>4.62</td>
</tr>
<tr>
<td>(c) interior body spray</td>
<td>10.05</td>
</tr>
<tr>
<td>(d) two piece can end exterior</td>
<td>10.05</td>
</tr>
<tr>
<td>(e) side-seam spray</td>
<td>21.92</td>
</tr>
<tr>
<td>(f) end sealing compound</td>
<td>7.32</td>
</tr>
<tr>
<td>2. Coil coating</td>
<td>4.02</td>
</tr>
<tr>
<td>3. Fabric coating</td>
<td>4.84</td>
</tr>
<tr>
<td>4. Vinyl coating</td>
<td>7.69</td>
</tr>
<tr>
<td>5. Paper coating</td>
<td>4.84</td>
</tr>
</tbody>
</table>
### Surface Coating Process Category

<table>
<thead>
<tr>
<th>Weight of VOC per Weight of Coating Solids</th>
<th>lbs</th>
<th>kg VOC per lb</th>
<th>lbs</th>
<th>kg VOC per kg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surface Coating Process Category</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Automobile and light duty truck coating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) prime coat</td>
<td>2.60</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) top coat</td>
<td>4.62</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) repair</td>
<td>14.14</td>
<td>1.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Metal furniture coating</td>
<td>5.06</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Magnet wire coating</td>
<td>2.16</td>
<td>0.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Large appliance coating</td>
<td>4.62</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Categories 1—9 were adopted on April 17, 1979</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Miscellaneous metal parts &amp; products</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) top coats for locomotives and heavy-duty trucks</td>
<td>6.67</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) hopper car and tank car interiors</td>
<td>6.67</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) pail and drum interiors</td>
<td>10.34</td>
<td>1.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) clear coatings</td>
<td>10.34</td>
<td>1.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) air-dried coatings</td>
<td>6.67</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) extreme performance coatings</td>
<td>6.67</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) all other coatings</td>
<td>5.06</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 10 was adopted on April 21, 1981</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Wood furniture manufacturing operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Topcoats and enamels</td>
<td>3.0</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Washcoat</td>
<td>14.3</td>
<td>14.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Final repair coat</td>
<td>3.3</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Basecoats</td>
<td>2.2</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Cosmetic specialty coatings</td>
<td>14.3</td>
<td>14.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Sealers</td>
<td>3.9</td>
<td>3.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 11 was adopted on May 7, 1988</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Authority**

The provisions of this § 129.52 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and issued and amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).
§ 129.52a. Control of VOC emissions from large appliance and metal furniture surface coating processes.

(a) Applicability. This section applies as follows:

(1) This section applies to the owner and operator of a large appliance or metal furniture surface coating process if the total actual VOC emissions from all large appliance or metal furniture 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.

(2) The emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52 (relating to surface coating processes) for large appliance and metal furniture surface coating processes.

(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)(1) 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 large appliance or metal furniture surface coating operation, except to the extent the RACT permit contains more stringent requirements.

(c) Emission limits. Beginning January 1, 2011, a person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a large appliance or metal furniture 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 or Table II (relating to emission limits of VOCs for large appliance surface coatings; and emission limits of VOCs for metal furniture surface coatings).

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

\[ \text{VOC} = \frac{(W_o)(D_c)}{V_n} \]

Where:
- \( W_o \) = 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 solvent(s)
- \( D_c \) = Density of coating, lb/gal, at 25° C
- \( V_n \) = Volume percent of solids of the as applied coating

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

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

Where:
- \( \text{VOC}_A \) = VOC content in lb VOC/gal 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
- \( V_{ni} \) = Percent solids by volume 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 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/gal of coating solids.
E = The Table I or Table II limit in lb VOC/gal 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 with this section. At a minimum, the owner or operator shall maintain daily records of:

1. The following parameters for each coating, thinner, component and cleaning solvent as supplied:
   - Name and identification number.
   - Volume used.
   - Mix ratio.
   - Density or specific gravity.
   - Weight percent of total volatiles, water, solids and exempt solvents.
   - Volume percent of solids for each Table I or Table II coating used in the surface coating process.
2. The VOC content of each coating, thinner, component and cleaning solvent as supplied.
3. The VOC content of each as applied coating or cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be:

1. Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).
2. Submitted to the Department upon receipt of a written request.

(f) *Coating application methods.* A person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of large appliance or metal furniture surface coatings, unless the coatings are applied using one or more of the following coating application methods:

1. Electrostatic coating.
2. Roller coating.
3. Flow coating.
4. Dip coating, including electrodeposition.
5. High volume-low pressure (HVLP) spray.
7. Other coating application method, if approved in writing by the Department prior to use.
   - The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by the methods listed in paragraphs (1)—(6).
   - The request for approval must be submitted in writing.
(g) **Exempt coatings and coating operations.** The VOC coating content limits in Table I and Table II do not apply to the following types of coatings and coating operations:

1. Stencil coatings.
2. Safety-indicating coatings.
4. Electric-insulating coatings.
5. Thermal-conducting coatings.
6. Touch-up and repair coatings.
7. Coating applications using hand-held aerosol cans.
8. A coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:
   
   (i) 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.

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

(b) **Work practice requirements for coating-related activities.** The owner or operator of a large appliance or metal furniture surface coating process subject to this section shall comply with the following work practices for coating-related activities:

1. Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.
2. Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times except when depositing or removing these materials.
3. Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.
4. Convey VOC-containing coatings, thinners and coating-related waste materials from one location to another in closed containers or pipes.

(i) **Work practice requirements for cleaning materials.** The owner or operator of a large appliance or metal furniture surface coating process subject to this section 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 Large Appliance Surface Coatings**

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

<table>
<thead>
<tr>
<th>Coating Type</th>
<th>Baked</th>
<th>Air Dried</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg/l</td>
<td>lb/gal</td>
</tr>
<tr>
<td>General, One Component</td>
<td>0.40</td>
<td>3.34</td>
</tr>
<tr>
<td>General, Multi-Component</td>
<td>0.40</td>
<td>3.34</td>
</tr>
<tr>
<td>Extreme High Gloss</td>
<td>0.55</td>
<td>4.62</td>
</tr>
<tr>
<td>Extreme Performance</td>
<td>0.55</td>
<td>4.62</td>
</tr>
<tr>
<td>Heat Resistant</td>
<td>0.55</td>
<td>4.62</td>
</tr>
<tr>
<td>Metallic</td>
<td>0.55</td>
<td>4.62</td>
</tr>
<tr>
<td>Pretreatment</td>
<td>0.55</td>
<td>4.62</td>
</tr>
<tr>
<td>Solar Absorbent</td>
<td>0.55</td>
<td>4.62</td>
</tr>
</tbody>
</table>

### Table II

**Emission Limits of VOCs for Metal Furniture Surface Coatings**

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

<table>
<thead>
<tr>
<th>Coating Type</th>
<th>Baked</th>
<th>Air Dried</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg/l</td>
<td>lb/gal</td>
</tr>
<tr>
<td>General, One Component</td>
<td>0.40</td>
<td>3.34</td>
</tr>
<tr>
<td>General, Multi-Component</td>
<td>0.40</td>
<td>3.34</td>
</tr>
<tr>
<td>Extreme High Gloss</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Extreme Performance</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Heat Resistant</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Metallic</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Pretreatment</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Solar Absorbent</td>
<td>0.61</td>
<td>5.06</td>
</tr>
</tbody>
</table>
§ 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 a combination of the following:

1. The emission limits in Table I 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 emission limit in Table II and other requirements of this section apply to the owner and operator of a paper surface coating process which emits or has emitted VOCs into the outdoor atmosphere in quantities greater than 3 pounds (1.4 kilograms) per hour, 15 pounds (7 kilograms) per day or 2.7 tons (2,455 kilograms) per year during any calendar year since January 1, 1987. For these processes, the emission limit and other requirements of this section supersede the emission limit and other requirements of § 129.52.

3. The work practice requirements for cleaning materials found in subsection (h), and the related compliance monitoring and recordkeeping and reporting requirements of subsections (d) 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, 2012, 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, 2012, a person subject to subsection (a)(1) or (2) may not cause or permit the emission into the outdoor atmo-
sphere 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 or Table II, as applicable.

(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:

\[ \text{VOC}_B = \frac{W_0}{W_n} \]

Where:

\( \text{VOC}_B \) = VOC content in lb VOC/lb of coating solids
\( W_0 \) = Weight percent of VOC \((W_v - W_w - W_{ex})\)
\( W_v \) = Weight percent of total volatiles \((100\% - \text{weight percent solids})\)
\( W_w \) = 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 the as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

\[ \text{VOC} = \frac{W_0(D_c)}{V_n} \]

Where:

\( \text{VOC} \) = VOC Content in lb VOC/gal of coating solids
\( W_0 \) = Weight percent of VOC \((W_v - W_w - W_{ex})\)
\( W_v \) = Weight percent of total volatiles \((100\% - \text{weight percent solids})\)
\( W_w \) = Weight percent of water
\( W_{ex} \) = Weight percent of exempt solvent(s)
\( D_c \) = Density of coating, lb/gal, at 25°C
\( V_n \) = Volume percent of solids of the as applied coating

(iii) 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_{ij} = \text{Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction}

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

Q_{ij} = \text{Quantity of each thinner (J) added to the dip coating process, in gallons}

(iv) 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:

\[ O = (1 - \frac{E}{V}) \times 100 \]

Where:

\( V \) = The VOC content of the as applied coating, in lb VOC/lb of coating solids or lb voc/gal of coating solids.

\( E \) = The Table I limit in lb VOC/lb of coating solids or Table II limit in lb voc/gal 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) 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) In addition to the records required under paragraph (1), the owner or operator of a facility subject to subsection (a)(2) shall maintain daily records of the volume percent solids for each coating, thinner or component, as supplied.

(3) The owner or operator of a facility subject to subsection (a) shall maintain daily records of the VOC content of each as applied coating or cleaning solvent.
(e) **Recordkeeping and reporting requirements.** The records required under subsection (d) shall be:

1. Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).
2. Submitted to the Department upon receipt of a written 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.
4. Dip coating.
5. Slot die coating.
6. Flexographic coating.
7. Extrusion coating.
8. Calendering.
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 Tables I and II 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) 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 if Potential VOC Emissions from a Single Line, Prior to Control, are 25 Tons per Year or More

<table>
<thead>
<tr>
<th>Weight of VOC per Weight of Coating Solids, as Applied</th>
<th>RACT Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Paper, Film, and Foil Surface Coating (Not including Pressure Sensitive Tape and Label Surface Coating)</td>
</tr>
<tr>
<td>Units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paper, Film, and Foil Surface Coating (Not including Pressure Sensitive Tape and Label Surface Coating)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>kg VOC/kg solids</td>
<td>0.20</td>
</tr>
<tr>
<td>(lb VOC/lb solids)</td>
<td></td>
</tr>
<tr>
<td>kg VOC/kg coating</td>
<td>0.067</td>
</tr>
<tr>
<td>(lb VOC/lb coating)</td>
<td></td>
</tr>
</tbody>
</table>

Table II

Emission Limit of VOCs for Paper Coating if Actual VOC Emissions have Exceeded 3 Pounds per Hour, 15 Pounds per Day or 2.7 Tons per Year in Any Year Since January 1, 1987

<table>
<thead>
<tr>
<th>Weight of VOC per Volume of Coating Solids, as Applied</th>
<th>RACT Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Paper Coating</td>
</tr>
<tr>
<td>Units</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>lb voc/gal coating solids</td>
<td>4.84</td>
</tr>
<tr>
<td>kg voc/l coating solids</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Authority

The provisions of this § 129.52b issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

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§ 129.52c. Control of VOC emissions from flat wood paneling surface coating processes.

(a) Applicability. Except as specified in paragraphs (1)—(3), this section applies to the owner and operator of a flat wood paneling surface coating process if the total actual VOC emissions from all flat wood paneling surface coating operations listed in Table I (relating to emission limits of VOCs for flat wood paneling surface coatings), including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day, before consideration of controls. This section does not apply to the following:

(1) A field-applied coating process. Field-applied coatings are regulated under Chapter 130, Subchapter C (relating to architectural and industrial maintenance coatings).

(2) A coating process regulated under §§ 129.101—129.107 (relating to wood furniture manufacturing operations).

(3) A coating process regulated under §§ 129.52(f) and 129.52, Table I, Category 11 (relating to surface coating processes; and wood furniture manufacturing operations).

(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, 2012, under §§ 129.91—129.95 (relating to stationary sources of NOx and VOCs) to control, reduce or minimize VOCs from a flat wood paneling surface coating process, except to the extent the RACT permit contains more stringent requirements.

(c) Emission limits. Beginning January 1, 2012, a person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a flat wood paneling 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 each as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

\[
VOC = \frac{(W_o)(D_c)}{V_n}
\]

Where:

\[VOC = \text{VOC content in lb VOC/gal of coating solids.}\]
\[ W_o = \text{Weight percent of VOC (W}_v - W_w - W_{ex}) \]
\[ W_v = \text{Weight percent of total volatiles (100\%-weight percent solids)} \]
\[ W_w = \text{Weight percent of water} \]
\[ W_{ex} = \text{Weight percent of exempt solvent(s)} \]
\[ D_c = \text{Density of coating, lb/gal, at 25° C} \]
\[ V_s = \text{Volume percent of solids of the as applied coating} \]

(ii) The VOC content limits in Table I may be met by calculating a weighted average of the VOC content of all coatings used on a single flat wood paneling surface coating process line each day. The daily weighted average shall be calculated using the following equation:

\[ \text{VOC}_w = \frac{\sum_{i=1}^{n} C_i V_i}{V_t} \]

Where:
\[ \text{VOC}_w = \text{The daily weighted average VOC content, as applied, of all coatings used on a single flat wood paneling surface coating process line, in lb VOC/gal of coating solids} \]
\[ n = \text{The number of different coatings used each day on the single flat wood paneling surface coating process line} \]
\[ V_i = \text{The volume solids for each coating, as applied, used each day on the single flat wood paneling surface coating process line, in gallons} \]
\[ C_i = \text{The VOC content of each coating, as applied, used each day on the single flat wood paneling surface coating process line, in lb VOC/gal coating solids} \]
\[ V_t = \text{The total volume of solids for all coatings combined, as applied, used each day on the single flat wood paneling surface coating process line, in gallons} \]

(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 oxidation or solvent recovery 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 efficiency as calculated by the following equation, whichever is less stringent:

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

Where:
\[ V = \text{The VOC content of the as applied coating, in lb VOC/gal of coating solids} \]
\[ E = \text{The Table I limit in lb VOC/gal of coating solids} \]
\[ O = \text{The overall required control efficiency} \]
(d) Compliance monitoring procedures. The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance with this section. The owner or operator shall maintain daily records of:

1. The following parameters for each coating, thinner, other component or cleaning solvent as supplied:
   i. Name and identification number of the coating, thinner, other 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. Volume percent of solids for each coating used in the flat wood paneling coating process.
   vii. VOC content.

2. The VOC content of each as applied coating or cleaning solvent.

(e) Recordkeeping and reporting requirements. The records required under subsection (d) shall be:

1. Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).

2. Submitted to the Department upon receipt of a written request.

(f) Coating application methods. A person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a flat wood paneling surface coating process unless the coatings are applied using one or more of the following coating application methods:

1. Offset rotogravure coating.

2. Curtain coating.

3. Direct roll coating.

4. Reverse roll coating.

5. Hand brush or hand roller coating.

6. High volume-low pressure (HVLP) spray coating.

7. Airless spray coating.

8. Air-assisted airless spray coating.

9. Electrostatic coating.

10. Other coating application method, if approved in writing by the Department prior to use.

   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)—(9).

   ii. The request for approval must be submitted in writing.

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(g) **Exempt coatings.** The VOC coating content standards 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 coating-related activities.** The owner or operator of a flat wood paneling surface coating process subject to this section shall comply with the following work practices for coating-related activities:

1. Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

2. Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

3. Convey VOC-containing coatings, thinners and coating-related waste materials from one location to another in closed containers or pipes.

4. Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times, except when depositing or removing these materials.

(i) **Work practice requirements for cleaning materials.** The owner or operator of a flat wood paneling surface coating process subject to this section shall comply with the following work practices for cleaning materials:

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

2. Minimize spills of VOC-containing cleaning materials and waste cleaning materials and clean up spills immediately.

3. Convey VOC-containing cleaning materials and waste cleaning materials from one location to another in closed containers or pipes.

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

5. Minimize VOC emissions during cleaning of storage, mixing and conveying equipment.
Table I

Emission Limits of VOCs for Flat Wood Paneling Surface Coatings

Weight of VOC per Volume of Coating Solids, as Applied

<table>
<thead>
<tr>
<th>Surface Coatings, Inks or Adhesives Applied to the Following Flat Wood Paneling Categories</th>
<th>lbs VOC per gallon coating solids</th>
<th>grams VOC per liter coating solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed interior panels made of hardwood plywood or thin particleboard</td>
<td>2.9</td>
<td>350</td>
</tr>
<tr>
<td>Natural-finish hardwood plywood panels</td>
<td>2.9</td>
<td>350</td>
</tr>
<tr>
<td>Class II finishes on hardboard panels</td>
<td>2.9</td>
<td>350</td>
</tr>
<tr>
<td>Tileboard</td>
<td>2.9</td>
<td>350</td>
</tr>
<tr>
<td>Exterior siding</td>
<td>2.9</td>
<td>350</td>
</tr>
</tbody>
</table>

Authority
The provisions of this § 129.52c issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source
The provisions of this § 129.52c adopted December 17, 2010, effective December 18, 2010, 40 Pa.B. 7224.

Cross References
This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.67 (relating to graphic arts systems); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.52d. Control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings.

(a) Applicability.

(1) This section applies to the owner and operator of a miscellaneous metal part surface coating process or miscellaneous plastic part surface coating process, or both, if the total actual VOC emissions from all miscellaneous metal part coating units and miscellaneous plastic part coating units, including related cleaning activities, at the facility are equal to or greater than 2.7 tons per 12-month rolling period, before consideration of controls.

(2) This section applies, as specified, to the owner and operator of a miscellaneous metal part surface coating process or miscellaneous plastic part surface coating process, or both, if the total actual VOC emissions from all miscellaneous metal part coating units and miscellaneous plastic part coating units,
including related cleaning activities, at the facility are below 2.7 tons per 12-month rolling period, before consideration of controls.

(3) Compliance with the VOC emission limits and other requirements of this section assures compliance with the VOC emission limits and other requirements of § 129.52 (relating to surface coating processes) for the miscellaneous metal parts and products surface coating processes as specified in § 129.52, Table I, Category 10.

(4) If an owner or operator elects to comply with § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly surface coating operations and heavier vehicle coating operations) under § 129.52e(a)(2) or (3), then § 129.52e instead of this section applies to the separate coating line at the facility, or to the coating of a body or body part for a new heavier vehicle at the facility, or both, for which the election is made.

(5) This section does not apply to an owner or operator in the use or application of the following:

   (i) Aerosol coatings that meet the requirements of 40 CFR Part 59, Subpart E (relating to National volatile organic compound emission standards for aerosol coatings).
   (ii) Aerospace coatings.
   (iii) Architectural coatings.
   (iv) Automobile refinishing coatings.
   (v) Auto and light-duty truck assembly coatings.
   (vi) Can, coil or magnet wire coatings.
   (vii) Coating applied to a test panel or coupon, or both, in research and development, quality control or performance testing activities, if records are maintained as required under subsections (e) and (f).
   (viii) Fiberglass boat manufacturing materials.
   (ix) Flat wood paneling coatings.
   (x) Large appliance coatings.
   (xi) Metal furniture coatings.
   (xii) Miscellaneous industrial adhesives.
   (xiii) Paper, film and foil coatings.
   (xiv) Shipbuilding and repair coatings.
   (xv) Wood furniture coatings.

(b) Definitions. The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise:

   Adhesion primer—A coating applied to a polyolefin part to promote the adhesion of a subsequent coating. This type of coating is clearly identified on its accompanying MSDS by this term or as an adhesion promoter.

   Air-dried coating—A coating that is cured or dried at a temperature below 90°C (194°F).

   Antifoulant or antifouling coating—A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the EPA as a pesticide under section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C.A. § 136).

   Appurtenance—An accessory to a stationary structure that is coated at the facility. The term includes:

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(i) Bathroom and kitchen fixtures.
(ii) Cabinets.
(iii) Concrete forms.
(iv) Doors.
(v) Elevators.
(vi) Fences.
(vii) Hand railings.
(viii) Heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools.
(ix) Lampposts.
(x) Partitions.
(xi) Pipes and piping systems.
(xii) Rain gutters and downspouts.
(xiii) Stairways.
(xiv) Fixed ladders.
(xv) Catwalks and fire escapes.
(xvi) Window screens.

_Baked coating_—A coating cured at a temperature at or above 90°C (194°F).

_Black coating_—A coating that meets either of the following:

(i) Both of the following criteria, which are based on Cielab color space, 0/45 geometry:
   (A) Maximum lightness: 23 units.
   (B) Saturation: less than 2.8, where saturation equals the square root of $A^2 + B^2$.
(ii) For spherical geometry, specular included, maximum lightness is 33 units.

_Business machine_—

(i) A device that uses an electronic or mechanical method to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission.
(ii) The term includes the following:
   (A) Devices listed in _Standard Industrial Classification Codes_ 3572, 3573, 3574, 3579 and 3661.
   (B) Photocopy machines, a subcategory of _Standard Industrial Classification Code_ 3861.

_Camouflage coating_—A coating used principally by the military to conceal equipment from detection.

_Cleaning material or cleaning solvent_—A material used during cleaning activities or cleaning operations to remove residue or other unwanted materials from equipment.

_Clear coating_—

(i) A colorless coating that contains binders, but no pigment, and is formulated to form a transparent film.
(ii) The term includes a transparent coating that uses the undercoat as a reflectant base or undertone color.

_Clear wood finishes_—A clear or semitransparent topcoat applied to a wood substrate to provide a transparent or translucent film.
Coating—
(i) A material applied onto or into a substrate for protective, decorative or functional purposes.
(ii) The term includes paints, sealants, caulks, primers, inks and maskants.
(iii) The term does not include protective oils, acids or bases, or combinations of these materials.
Coating unit—A series of one or more coating applicators and associated drying area or oven or both wherein a coating is applied and dried or cured, or both. The unit ends at the point where the coating is dried or cured, or prior to subsequent application of a different coating.
Drum—A cylindrical metal shipping container larger than 12 gallons capacity but not larger than 110 gallons capacity.
EMI/RFI shielding coating—A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference, radio frequency interference or static discharge.
Electric dissipating coating—A coating that rapidly dissipates a high voltage electric charge.
Electric-insulating varnish—A non-convertible-type coating applied to electric motors, components of electric motors or power transformers to provide electrical, mechanical or environmental protection or resistance.
Electrostatic prep coating—A coating applied to a plastic part solely to provide conductivity for the subsequent application of a primer, a topcoat or other coating through the use of electrostatic application methods. This term is clearly identified as an electrostatic prep coat on its accompanying MSDS.
Etching filler—A coating that contains less than 23% solids by weight and at least 0.5% acid by weight, and is used instead of applying a pretreatment coating followed by a primer.
Extreme high-gloss coating—A coating that achieves the following:
(i) For miscellaneous metal part surface coatings or miscellaneous plastic part surface coatings, other than pleasure craft surface coatings, a coating when tested by the American Society for Testing Material Test Method D-523-08 shows a reflectance of at least 75% on a 60° meter.
(ii) For pleasure craft surface coatings, a coating that shows a reflectance of at least 90% on a 60° meter when tested by American Society for Testing Material Test Method D-523-08.
Extreme-performance coating—
(i) A coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to one or more of the following:
(A) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions.
(B) Repeated exposure to temperatures in excess of 250°F.
(C) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers or scouring agents.
(ii) The term includes coatings applied to locomotives, railroad cars, farm machinery and heavy duty trucks.

*Finish primer/surfacer*—A coating applied with a wet film thickness of less than 10 mils prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier or promotion of a uniform surface necessary for filling in surface imperfections.

*Flexible primer*—A coating required to comply with engineering specifications for impact resistance, mandrel bend or elongation as defined by the original equipment manufacturer.

*Fog coat*—A coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, for the purpose of color matching without masking a molded-in texture.

*Gloss reducer*—A coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, solely to reduce the shine of the part.

*Heat-resistant coating*—A coating that must withstand a temperature of at least 400°F during normal use.

*Heavier vehicle*—A self-propelled vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

*High-bake coating*—A coating designed to cure only at temperatures of more than 90°C (194°F).

*High-build primer/surfacer*—A coating applied with a wet film thickness of 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier or promotion of a uniform surface necessary for filling in surface imperfections.

*High gloss coating*—A coating that achieves at least 85% reflectance on a 60° meter when tested by ASTM Method D-523-08.

*High-performance architectural coating*—A coating used to protect aluminum architectural subsections and which meets the requirements of the American Architectural Manufacturers Association’s publication number AAMA 2604 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels), including updates and revisions.

*High-temperature coating*—A coating certified to withstand a temperature of 1,000°F for 24 hours.

*Mask coating*—A thin film coating applied through a template to coat a small portion of a substrate.

*Metal particles*—Pieces of a pure elemental metal or a combination of elemental metals.

*Metallic coating*—A coating that contains more than 5 grams of metal particles per liter of coating as applied.
Military specification coating—A coating that has a formulation approved by a United States Military Agency for use on military equipment.

Miscellaneous metal parts and miscellaneous plastic parts—Metal or plastic components of parts or products, as well as the parts or products themselves, constructed either entirely or partially from metal or plastic, or both, including the following:

(i) Fabricated metal products.
(ii) Molded plastic parts.
(iii) Farm machinery.
(iv) Commercial and industrial machinery and equipment.
(v) Automotive or transportation equipment.
(vi) Interior or exterior automotive parts.
(vii) Construction equipment.
(viii) Motor vehicle accessories.
(ix) Bicycles and sporting goods.
(x) Toys.
(xi) Recreational vehicles.
(xii) Watercraft.
(xiii) Extruded aluminum structural components.
(xiv) Railroad cars.
(xv) Heavier vehicles.
(xvi) Lawn and garden equipment.
(xvii) Business machines.
(xviii) Laboratory and medical equipment.
(xix) Electronic equipment.
(xx) Steel drums.
(xxi) Metal pipes.

Mold-release coating—A coating applied to a mold to prevent the molded product from sticking to the mold as it is removed.

Mold-seal coating—The initial coating applied to a new or repaired mold to provide a smooth surface that when coated with a mold-release coating prevents products from sticking to the mold.

Motor vehicle bedliner—A multicomponent coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to a cargo bed after the application of topcoat to provide additional durability and chip resistance.

Motor vehicle cavity wax—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied into the cavities of the vehicle primarily to enhance corrosion protection.

Motor vehicle deadener—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to selected vehicle surfaces primarily to reduce the sound of road noise in the passenger compartment.
Motor vehicle gasket/sealing material—
(i) A fluid, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to coat a gasket or replace and perform the same function as a gasket.
(ii) The term includes room temperature vulcanization seal material.

Motor vehicle lubricating wax/compound—A protective lubricating material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to vehicle hubs and hinges.

Motor vehicle sealer—A high viscosity material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (for example, a primer/surfacer). The primary purpose of the material is to fill body joints completely so that there is no intrusion of water, gases or corrosive materials into the passenger area of the body compartment. The material is also referred to as sealant, sealant primer or caulk.

Motor vehicle trunk interior coating—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the trunk interior to provide chip protection.

Motor vehicle underbody coating—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the undercarriage or firewall to prevent corrosion or provide chip protection, or both.

Multicolored coating—A coating that exhibits more than one color when applied and which is packaged in a single container and applied in a single coat.

Multicomponent coating—A coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to the substrate to form an acceptable dry film.

One-component coating—A coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner may be added to reduce the viscosity, but is not considered a component.

Optical coating—A coating applied to an optical lens.

Pan-backing coating—A coating applied to the surface of pots, pans or other cooking implements that are exposed directly to a flame or other heating element.

Pleasure craft—A vessel that is manufactured or operated primarily for recreational purposes, or leased, rented or chartered to a person or business for recreational purposes.

Pleasure craft coating—A marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller or other means to a pleasure craft.

Powder coating—A coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film.
Prefabricated architectural component coating—A coating applied to a pre-fabricated metal part or product if the part or product is to be used as an architectural appurtenance or structure. The appurtenance is detached from the structure when coated in a shop setting.

Pretreatment coating—A coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to metal surfaces to provide corrosion resistance, adhesion and ease of stripping.

Pretreatment wash primer—A coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

Red coating—A coating that meets the following:

(i) All of the following criteria, which are based on Cielab color space, 0/45 geometry:
   (A) Yellow limit: the hue of hostaperm scarlet.
   (B) Blue limit: the hue of monastral red-violet.
   (C) Lightness limit for metallics: 35% aluminum flake.
   (D) Lightness limit for solids: 50% titanium dioxide white.
   (E) Solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units.
   (F) Metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units.

(ii) For spherical geometry, specular included, the upper limit is 49 units.

Repair coating—A coating used to recoat portions of a previously coated product that has sustained mechanical damage to the coating following normal coating operations.

Resist coating—A coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

Shock-free coating—A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being of low capacitance and high resistance, and being resistant to breaking down under high voltage.

Silicone-release coating—A coating which contains silicone resin and is intended to prevent food from sticking to metal surfaces, such as baking pans.

Solar-absorbent coating—A coating which has as its prime purpose the absorption of solar radiation.

Stencil coating—An ink or coating that is applied onto a template, stamp or stencil to add identifying letters, numbers or decorative designs, or a combination of these, to a metal or plastic part or product.

Texture coat—A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.
Topcoat—A final coating applied in a surface coating process that applies two or more coatings.

Touch-up coating—A coating used to cover minor coating imperfections appearing after the main coating operation.

Translucent coating—A coating that contains binders and pigment and is formulated to form a colored, but not opaque, film.

Two-component coating—A coating requiring the addition of a separate reactive resin, commonly known as a catalyst, before application to form an acceptable dry film.

Vacuum-metalizing coating—A coating meeting either of the following:

(i) An undercoat applied to a substrate on which the metal is deposited prior to a vacuum-metalizing process.

(ii) An overcoat applied directly to the metal film after a vacuum-metalizing process.

Vacuum-metalizing process—The process of evaporating metals inside a vacuum chamber and depositing them on a substrate to achieve a uniform metalized layer.

(c) Existing RACT permit. The requirements of this section supersede the requirements of a RACT permit issued under §§ 129.91—129.95 (relating to stationary sources of NOx and VOCs) to the owner or operator of a source subject to subsection (a) prior to January 1, 2017, to control, reduce or minimize VOCs from a miscellaneous metal part or miscellaneous plastic part surface coating process, except to the extent the RACT permit contains more stringent requirements.

(d) Emission limitations. Beginning January 1, 2017, a person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, unless emissions of VOCs are controlled in accordance with paragraph (1), (2) or (3).

(1) Compliant materials option. The VOC content of each miscellaneous metal part coating or each miscellaneous plastic part coating, as applied, excluding water and exempt compounds, is equal to or less than the VOC content limit for the applicable coating category specified in the applicable table of VOC content limits in Tables I—V.

(2) Combination of compliant materials, VOC emissions capture system and add-on air pollution control device option. The combination of one or more VOC-containing coatings, as applied, that meet the emission rate limits for the applicable coating category specified in the applicable table of emission rate limits in Tables VI—IX, and one or more VOC emissions capture systems and one or more add-on air pollution control devices that meet the requirements of subsection (e)(2).

(3) VOC emissions capture system and add-on air pollution control device option. The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery, oxidation, incineration or another method that is acceptable under § 129.51(a) (relating to general) and meets the requirements of subsection (e)(2). 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), may be no less than 90%.

(4) **Least restrictive VOC limit.** If more than one VOC content limit or 
VOC emission rate limit applies to a specific coating, then the least restrictive 
VOC content limit or VOC emission rate limit applies.

(5) **Coatings not listed in Table I, II, VI or VII.** For a miscellaneous metal 
part or miscellaneous plastic part coating that does not meet the coating 
categories listed in Table I, II, VI or VII, the VOC content limit or VOC emission 
rate limit shall be determined by classifying the coating as a general one 
component coating or general multicomponent coating. The corresponding general 
one component coating or general multicomponent coating limit applies.

(6) **Coatings not listed in Table IV or IX.** For a pleasure craft coating that 
does not meet the coating categories listed in Table IV or IX, the VOC content 
limit or VOC emission rate limit shall be determined by classifying the coating 
as an “all other pleasure craft surface coatings for metal or plastic.” The “all 
other pleasure craft surface coatings for metal or plastic” limit applies.

(e) **Compliance and monitoring requirements.**

(1) **All owners and operators.** Regardless of the facility’s VOC emissions, 
the owner or operator of a miscellaneous metal part surface coating process or 
miscellaneous plastic part surface coating process, or both, subject to subsection (a)(1) or (2), shall comply with this section as specified throughout this section. For an owner or operator subject only to subsection (a)(2), the compliance requirements are the recordkeeping requirements in subsection (f)(2).

(2) **VOC emissions capture system and add-on air pollution control device.** 
The owner or operator of a facility subject to subsection (a)(1) that elects to comply with the emission limitations of subsection (d) through installation of a VOC emissions capture system and add-on air pollution control device under subsection (d)(2) or (3) shall submit an application for a plan approval to the appropriate regional office. The plan approval must be approved, in writing, by the Department prior to installation and operation of the emissions capture system and add-on air pollution control device. The plan approval must include the following information:

(i) A description, including location, of each affected source or operation to be controlled with the emissions capture system and add-on air pollution control device.

(ii) A description of the proposed emissions capture system and add-on air pollution control device to be installed.

(iii) A description of the proposed compliance monitoring equipment to be installed.

(iv) A description of the parameters to be monitored to demonstrate continuing compliance.

(v) A description of the records to be kept that will document the continuing compliance.

(vi) A schedule containing proposed interim dates for completing each phase of the required work to install and test the emissions capture system and add-on air pollution control device described in subparagraph (ii) and the compliance monitoring equipment described in subparagraph (iii).
(vii) A proposed interim emission limitation that will be imposed on the affected source or operation until compliance is achieved with the applicable emission limitation.

(viii) A proposed final compliance date that is as soon as possible but not later than 1 year after the start of installation of the approved emissions capture system and add-on air pollution control device and the compliance monitoring equipment.

(f) Recordkeeping and reporting requirements.

(1) The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, subject to subsection (a)(1) shall maintain monthly records sufficient to demonstrate compliance with this section. The records must include the following information:

(i) The following parameters for each coating, thinner, component and cleaning solvent as supplied:

   (A) Name and identification number of the coating, thinner, other component or cleaning solvent.
   (B) Volume used.
   (C) Mix ratio.
   (D) Density or specific gravity.
   (E) Weight percent of total volatiles, water, solids and exempt solvents.
   (F) Volume percent of total volatiles, water and exempt solvents for the applicable table of limits in Tables I—V.
   (G) Volume percent of solids for the applicable table of limits in Tables VI—IX.

(ii) The VOC content of each coating, thinner, other component and cleaning solvent as supplied.

(iii) The VOC content of each as applied coating or cleaning solvent.

(iv) The calculations performed for each applicable requirement under subsections (d) and (e).

(v) The information required in a plan approval issued under subsection (e)(2).

(2) An owner or operator subject to subsection (a)(2), or otherwise claiming an exemption or exception in this section, shall maintain records sufficient to verify the applicability of subsection (a)(2), the exemption or exception. Records maintained for compliance demonstrations may include purchase, use, production and other records.

(3) The records shall be maintained onsite for 2 years, unless a longer period is required by an order, plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources).
(4) The records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

(g) Coating application methods. A person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, unless the coatings are applied using one or more of the following coating application methods:

(1) Electrostatic coating.
(2) Flow coating.
(3) Dip coating, including electrodeposition.
(4) Roll coating.
(5) High volume-low pressure (HVLP) spray coating.
(6) Airless spray coating.
(7) Air-assisted airless spray coating.
(8) Other coating application method if approved in writing by the Department prior to use.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray coating.

(ii) The owner or operator shall submit the request for approval to the Department in writing.

(h) Exempt coatings and exempt coating unit operations.

(1) The requirements of subsections (d) and (g) do not apply to the application of the following coatings to a metal part:

(i) Stencil coating.
(ii) Safety-indicating coating.
(iii) Solid-film lubricant.
(iv) Electric-insulating and thermal-conducting coating.
(v) Magnetic data storage disk coating.
(vi) Plastic extruded onto metal parts to form a coating.
(vii) Powder coating.

(2) The requirements of subsection (d) do not apply to the application of the following coatings to a plastic part:

(i) Touch-up and repair coating.
(ii) Stencil coating applied on a clear or transparent substrate.
(iii) Clear or translucent coating.
(iv) Coating applied at a paint manufacturing facility while conducting performance tests on coating.
(v) Reflective coating applied to highway cones.
(vi) Mask coating, if the coating is less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches.
(vii) EMI/RFI shielding coating.
(viii) Heparin-benzalkonium chloride (HBAC)-containing coating applied to a medical device, provided that the total usage of HBAC-containing coatings does not exceed 100 gallons in 1 calendar year at the facility.

(ix) Powder coating.

(x) An individual coating category used in an amount less than 50 gallons in 1 calendar year provided that the total usage of all of the coatings, combined, does not exceed 200 gallons per year at the facility. This exception applies only if substitute compliant coatings are not available.

(3) The requirements of subsection (d) do not apply to the application of the following coatings to automotive-transportation and business machine parts:

(i) Texture coat.

(ii) Vacuum-metalizing coating.

(iii) Gloss reducer.

(iv) Texture topcoat.

(v) Adhesion primer.

(vi) Electrostatic prep coat.

(vii) Resist coating.

(viii) Stencil coating.

(ix) Powder coating.

(4) The requirements of subsection (g) do not apply to the following activities:

(i) Application of a touch-up coating, repair coating or textured finish to a metal part.

(ii) Application of a powder coating to the following:

(A) Plastic part.

(B) Automotive-transportation plastic part.

(C) Business machine plastic part.

(iii) Airbrush application of coating to a metal part or plastic part using no more than 5 gallons of coating per year.

(iv) Use of an add-on air pollution control device to comply with subsection (d).

(v) Application of extreme high-gloss coating in a pleasure craft surface coating operation.

(i) Work practice requirements for coating-related activities. The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, subject to subsection (a)(1) shall comply with the following work practices for coating-related activities:

(1) Store all VOC-containing coatings, thinners or coating-related waste materials in closed containers.
(2) Ensure that mixing and storage containers used for VOC-containing coatings, thinners or coating-related waste materials are kept closed at all times, except when depositing or removing these coatings, thinners or waste materials.

(3) Minimize spills of VOC-containing coatings, thinners or coating-related waste materials and clean up spills immediately.

(4) Convey VOC-containing coatings, thinners or coating-related waste materials from one location to another in closed containers or pipes.

(j) Work practice requirements for cleaning materials. The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit subject to subsection (a)(1) 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 vessels 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 application, storage, mixing or conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(k) Measurements and calculations. To determine the properties of a coating or component used in a miscellaneous metal parts surface coating process or miscellaneous plastic parts surface coating process, measurements and calculations shall be performed according to one or more of the following:

(1) EPA Reference Method 24, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, found at 40 CFR Part 60, Subpart D, Appendix A, including updates and revisions.

(2) Manufacturer’s formulation data.

(3) Sampling and testing done in accordance with the procedures and test methods specified in Chapter 139.

(4) Other test method demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department.
(5) Add-on air pollution control devices shall be equipped with the appli-
cable monitoring equipment according to manufacturers’ specifications. The
monitoring equipment shall be installed, calibrated, operated and maintained
according to manufacturers’ specifications at all times the add-on air pollution
control device is in use.

(6) EPA calculations information in the following:
(i) A Guideline for Surface Coating Calculations, EPA-340/1-86-016, including updates and revisions.
(ii) Procedures for Certifying Quantity of Volatile Organic Compounds
Emitted by Paint, Ink, and Other Coatings, EPA-450/3-84-019, including
updates and revisions.

Table I. VOC Content Limits for Metal Parts and Products
Surface Coatings

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>Air Dried</th>
<th>Baked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg VOC/ l</td>
<td>lb VOC/ gal</td>
</tr>
<tr>
<td></td>
<td>coating</td>
<td>coating</td>
</tr>
<tr>
<td>General One-component</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>General Multicomponent</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>Camouflage</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Electric-insulating Varnish</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Etching Filler</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Extreme High-gloss</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Extreme Performance</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Heat-resistant</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>High-performance Architectural</td>
<td>0.74</td>
<td>6.2</td>
</tr>
<tr>
<td>High-temperature</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Metallic</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Military Specification</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>Mold-seal</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Pan-backing</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Prefabricated Architectural Multicomponent</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Prefabricated Architectural One-component</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Pretreatment</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Touch-up and Repair</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Silicone-release</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Solar-absorbent</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Vacuum-metalizing</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Drum Coating, New, Exterior</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>Drum Coating, New, Interior</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Drum Coating, Reconditioned, Exterior</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Drum Coating, Reconditioned, Interior</td>
<td>0.50</td>
<td>4.2</td>
</tr>
</tbody>
</table>
### Table II. VOC Content Limits for Plastic Parts and Products
Surface Coatings

Weight of VOC per Volume of Coating,
Less Water and Exempt Compounds, as Applied

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>General One-component</td>
<td>0.28</td>
<td>2.3</td>
</tr>
<tr>
<td>General Multicomponent</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Electric Dissipating and Shock-free</td>
<td>0.80</td>
<td>6.7</td>
</tr>
<tr>
<td>Extreme Performance (2-pack coatings)</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Metallic</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Military Specification (1-pack)</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>Military Specification (2-pack)</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Mold-seal</td>
<td>0.76</td>
<td>6.3</td>
</tr>
<tr>
<td>Multicolored</td>
<td>0.68</td>
<td>5.7</td>
</tr>
<tr>
<td>Optical</td>
<td>0.80</td>
<td>6.7</td>
</tr>
<tr>
<td>Vacuum-metalizing</td>
<td>0.80</td>
<td>6.7</td>
</tr>
</tbody>
</table>

### Table III. VOC Content Limits for Automotive/Transportation and Business Machine Plastic Parts
Surface Coatings

Weight of VOC per Volume of Coating,
Less Water and Exempt Compounds, as Applied

#### Automotive/Transportation Coatings

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. High Bake Coatings—Interior and Exterior Parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Primer</td>
<td>0.54</td>
<td>4.5</td>
</tr>
<tr>
<td>Nonflexible Primer</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Basecoat</td>
<td>0.52</td>
<td>4.3</td>
</tr>
<tr>
<td>Clear Coat</td>
<td>0.48</td>
<td>4.0</td>
</tr>
<tr>
<td>Non-basecoat/Clear Coat</td>
<td>0.52</td>
<td>4.3</td>
</tr>
<tr>
<td>II. Low Bake/Air Dried Coatings—Exterior Parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primer</td>
<td>0.58</td>
<td>4.8</td>
</tr>
<tr>
<td>Basecoat</td>
<td>0.60</td>
<td>5.0</td>
</tr>
<tr>
<td>Clear Coat</td>
<td>0.54</td>
<td>4.5</td>
</tr>
<tr>
<td>Non-basecoat/Clear Coat</td>
<td>0.60</td>
<td>5.0</td>
</tr>
<tr>
<td>III. Low Bake/Air Dried Coatings—Interior Parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.60</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>IV. Touch-up and Repair</td>
<td>0.62</td>
<td>5.2</td>
</tr>
</tbody>
</table>

129-32.15

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Automotive/Transportation Coatings*

* For red, yellow and black automotive coatings, except touch-up and repair coatings, the limit is determined by multiplying the appropriate limit in this table by 1.15.

### Business Machine Coatings

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primer</td>
<td>0.35</td>
<td>2.9</td>
</tr>
<tr>
<td>Topcoat</td>
<td>0.35</td>
<td>2.9</td>
</tr>
<tr>
<td>Texture Coat</td>
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<td>2.9</td>
</tr>
<tr>
<td>Fog Coat</td>
<td>0.26</td>
<td>2.2</td>
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<tr>
<td>Touch-up and Repair</td>
<td>0.35</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Table IV. VOC Content Limits for Pleasure Craft Surface Coatings

Weight of VOC per Volume of Coating, Less Water and Exempt Compounds, as Applied

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme High-gloss Topcoat</td>
<td>0.60</td>
<td>5.0</td>
</tr>
<tr>
<td>High Gloss Topcoat</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Pretreatment Wash Primer</td>
<td>0.78</td>
<td>6.5</td>
</tr>
<tr>
<td>Finish Primer/Surfacer</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>High Build Primer Surfacer</td>
<td>0.34</td>
<td>2.8</td>
</tr>
<tr>
<td>Aluminum Substrate Antifoulant Coating</td>
<td>0.56</td>
<td>4.7</td>
</tr>
<tr>
<td>Antifoulant Sealer/Tiecoat</td>
<td>0.42</td>
<td>3.5</td>
</tr>
<tr>
<td>Other Substrate Antifoulant Coating</td>
<td>0.40</td>
<td>3.3</td>
</tr>
<tr>
<td>All Other Pleasure Craft Surface Coatings for Metal or Plastic</td>
<td>0.42</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Table V. VOC Content Limits for Motor Vehicle Materials Surface Coatings

Weight of VOC per Volume of Coating, Less Water and Exempt Compounds, as Applied

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Vehicle Cavity Wax</td>
<td>0.65</td>
<td>5.4</td>
</tr>
<tr>
<td>Motor Vehicle Sealer</td>
<td>0.65</td>
<td>5.4</td>
</tr>
<tr>
<td>Motor Vehicle Deadener</td>
<td>0.65</td>
<td>5.4</td>
</tr>
<tr>
<td>Motor Vehicle Gasket/Gasket Sealing Material</td>
<td>0.20</td>
<td>1.7</td>
</tr>
<tr>
<td>Motor Vehicle Underbody Coating</td>
<td>0.65</td>
<td>5.4</td>
</tr>
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</table>
### Table VI. VOC Emission Rate Limits for Metal Parts and Products

**Surface Coatings**

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l coating</th>
<th>lb VOC/gal coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Vehicle Trunk Interior Coating</td>
<td>0.65</td>
<td>5.4</td>
</tr>
<tr>
<td>Motor Vehicle Bedliner</td>
<td>0.20</td>
<td>1.7</td>
</tr>
<tr>
<td>Motor Vehicle Lubricating Wax/Compound</td>
<td>0.70</td>
<td>5.8</td>
</tr>
</tbody>
</table>

### Weight of VOC per Volume of Coating Solids, as Applied

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>Air Dried kg VOC/l solids</th>
<th>Air Dried lb VOC/gal solids</th>
<th>Baked kg VOC/l solids</th>
<th>Baked lb VOC/gal solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>General One-component</td>
<td>0.54</td>
<td>4.52</td>
<td>0.40</td>
<td>3.35</td>
</tr>
<tr>
<td>General Multicomponent</td>
<td>0.54</td>
<td>4.52</td>
<td>0.40</td>
<td>3.35</td>
</tr>
<tr>
<td>Camouflage</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Electric-insulating Varnish</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Etching Filler</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Extreme High-gloss</td>
<td>0.80</td>
<td>6.67</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Extreme Performance</td>
<td>0.80</td>
<td>6.67</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Heat-resistant</td>
<td>0.80</td>
<td>6.67</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>High-performance Architectural</td>
<td>4.56</td>
<td>38.0</td>
<td>4.56</td>
<td>38.0</td>
</tr>
<tr>
<td>High-temperature</td>
<td>0.80</td>
<td>6.67</td>
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<td>6.67</td>
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<tr>
<td>Metallic</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Military Specification</td>
<td>0.54</td>
<td>4.52</td>
<td>0.40</td>
<td>3.35</td>
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<tr>
<td>Mold-seal</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Pan-backing</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Prefabricated Architectural Multicomponent</td>
<td>0.80</td>
<td>6.67</td>
<td>0.40</td>
<td>3.35</td>
</tr>
<tr>
<td>Prefabricated Architectural One-component</td>
<td>0.80</td>
<td>6.67</td>
<td>0.40</td>
<td>3.35</td>
</tr>
<tr>
<td>Pretreatment</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Silicone-release</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Solar-absorbent</td>
<td>0.80</td>
<td>6.67</td>
<td>0.61</td>
<td>5.06</td>
</tr>
<tr>
<td>Vacuum-metalizing</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Drum Coating, New, Exterior</td>
<td>0.54</td>
<td>4.52</td>
<td>0.54</td>
<td>4.52</td>
</tr>
<tr>
<td>Drum Coating, New, Interior</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Drum Coating, Reconditioned, Exterior</td>
<td>0.80</td>
<td>6.67</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Drum Coating, Reconditioned, Interior</td>
<td>1.17</td>
<td>9.78</td>
<td>1.17</td>
<td>9.78</td>
</tr>
</tbody>
</table>
Table VII. VOC Emission Rate Limits for Plastic Parts and Products
Surface Coatings

Weight of VOC per Volume of Coating Solids, as Applied

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/ l solids</th>
<th>lb VOC/ gal solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>General One-component</td>
<td>0.40</td>
<td>3.35</td>
</tr>
<tr>
<td>General Multicomponent</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Electric Dissipating and Shock-free</td>
<td>8.96</td>
<td>74.7</td>
</tr>
<tr>
<td>Extreme Performance (2-pack coatings)</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Metallic</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Military Specification (1-pack)</td>
<td>0.54</td>
<td>4.52</td>
</tr>
<tr>
<td>Military Specification (2-pack)</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Mold-seal</td>
<td>5.24</td>
<td>43.7</td>
</tr>
<tr>
<td>Multicolored</td>
<td>3.04</td>
<td>25.3</td>
</tr>
<tr>
<td>Optical</td>
<td>8.96</td>
<td>74.7</td>
</tr>
<tr>
<td>Vacuum-metalizing</td>
<td>8.96</td>
<td>74.7</td>
</tr>
</tbody>
</table>

Table VIII. VOC Emission Rate Limits for Automotive/Transportation and Business Machine Plastic Parts Surface Coatings

Weight of VOC per Volume of Coating Solids, as Applied

Automotive/Transportation Coatings*

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/ l solids</th>
<th>lb VOC/ gal solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. High Bake Coatings—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior and Exterior Parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Primer</td>
<td>1.39</td>
<td>11.58</td>
</tr>
<tr>
<td>Nonflexible Primer</td>
<td>0.80</td>
<td>6.67</td>
</tr>
<tr>
<td>Basecoat</td>
<td>1.24</td>
<td>10.34</td>
</tr>
<tr>
<td>Clear Coat</td>
<td>1.05</td>
<td>8.76</td>
</tr>
<tr>
<td>Non-basecoat/Clear Coat</td>
<td>1.24</td>
<td>10.34</td>
</tr>
<tr>
<td>II. Low Bake/Air Dried Coatings—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior Parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primer</td>
<td>1.66</td>
<td>13.80</td>
</tr>
<tr>
<td>Basecoat</td>
<td>1.87</td>
<td>15.59</td>
</tr>
<tr>
<td>Clear Coat</td>
<td>1.39</td>
<td>11.58</td>
</tr>
<tr>
<td>Non-basecoat/Clear Coat</td>
<td>1.87</td>
<td>15.59</td>
</tr>
<tr>
<td>III. Low Bake/Air Dried Coatings—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Parts</td>
<td>1.87</td>
<td>15.59</td>
</tr>
<tr>
<td>IV. Touch-up and Repair</td>
<td>2.13</td>
<td>17.72</td>
</tr>
</tbody>
</table>

* For red, yellow and black automotive coatings, except touch-up and repair coatings, the limit is determined by multiplying the appropriate limit in this table by 1.15.
## Table IX. VOC Emission Rate Limits for Pleasure Craft Surface Coatings

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>kg VOC/l solids</th>
<th>lb VOC/gal solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme High-gloss Topcoat</td>
<td>1.10</td>
<td>9.2</td>
</tr>
<tr>
<td>High Gloss Topcoat</td>
<td>0.80</td>
<td>6.7</td>
</tr>
<tr>
<td>Pretreatment Wash Primer</td>
<td>6.67</td>
<td>55.6</td>
</tr>
<tr>
<td>Finish Primer/Surfacer</td>
<td>0.80</td>
<td>6.7</td>
</tr>
<tr>
<td>High Build Primer Surfacer</td>
<td>0.55</td>
<td>4.6</td>
</tr>
<tr>
<td>Aluminum Substrate Antifoulant Coating</td>
<td>1.53</td>
<td>12.8</td>
</tr>
<tr>
<td>Other Substrate Antifoulant Coating</td>
<td>0.53</td>
<td>4.4</td>
</tr>
<tr>
<td>All Other Pleasure Craft Surface Coatings for Metal or Plastic</td>
<td>0.80</td>
<td>6.7</td>
</tr>
</tbody>
</table>

### § 129.52e. Control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations.

(a) **Applicability.**

(1) This section applies to the owner and operator of an automobile and light-duty truck assembly coating operation that applies an automobile assembly coating or a light-duty truck assembly coating, or both, to one or more of the following:

(i) A new automobile body or a new light-duty truck body.

(ii) A body part for a new automobile or for a new light-duty truck.
(iii) Another part that is coated along with the new automobile body or body part or new light-duty truck body or body part.

(2) This section applies to the owner and operator of an automobile and light-duty truck assembly coating operation that operates a separate coating line at the facility on which a coating is applied to another part intended for use in a new automobile or new light-duty truck or an aftermarket repair or replacement part for an automobile or light-duty truck if the owner or operator elects to comply with this section instead of § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings). The election occurs when the owner or operator notifies the Department by submitting a written statement to the appropriate Department regional office Air Quality Program Manager that specifies the intent to comply with this section instead of § 129.52d.

(3) This section applies to the owner and operator of a facility that coats a body or body part for a new heavier vehicle if the owner or operator elects to comply with this section instead of § 129.52d. The election occurs when the owner or operator notifies the Department by submitting a written statement to the appropriate Department regional office Air Quality Program Manager that specifies the intent to comply with this section instead of § 129.52d.

(4) This section applies to the owner and operator of a facility that performs a coating operation subject to this section on a contractual basis.

(5) This section does not apply to the use or application of an automobile and light-duty truck assembly coating by an owner or operator at a plastic or composites molding facility.

(b) Definitions. The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

Adhesive—A chemical substance that is applied for the purpose of bonding two surfaces together by other than mechanical means.

Assembly coating—The term includes the primary and additional surface coatings applied during the vehicle assembly process.

(i) Primary coatings include the following:
(A) Electrodeposition primer.
(B) Primer-surfacer (including anti-chip coatings).
(C) Topcoat (including basecoat and clearcoat).
(D) Final repair.

(ii) Additional coatings include the following:
(A) Glass bonding primer.
(B) Adhesives.
(C) Cavity wax.
(D) Sealer.
(E) Deadener.
(F) Gasket/gasket sealing material.
(G) Underbody coating.
(H) Trunk interior coating.
(I) Bedliner.
(J) Weatherstrip adhesive.
(K) Lubricating waxes and compounds.
(iii) The term does not include aerosol coatings.

Automobile—

(i) A motor vehicle designed to carry up to eight passengers.
(ii) The term does not include vans, sport utility vehicles and motor vehicles designed primarily to transport light loads of property.

Automobile and light-duty truck adhesive—An adhesive, including glass bonding adhesive, used at an automobile and light-duty truck assembly coating operation, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

Automobile and light-duty truck assembly coating operation—An operation that applies an assembly coating to a new automobile body or a new light-duty truck body, or both, or a body part for a new automobile or for a new light-duty truck, or both, or another part that is coated along with the new automobile body or body part or new light-duty truck body or body part. The operation consists of one or more of the following processes:

(i) Surface preparing.
(ii) Priming, including application of either of the following:
   (A) Electrodeposition primer.
   (B) Primer-surfacer.
(iii) Topcoating.
(iv) Final repairing.
(v) Cleaning activities related to the vehicle coating operations.

Automobile and light-duty truck bedliner—A multicomponent coating, used at an automobile and light-duty truck assembly coating operation, applied to a cargo bed after the application of topcoat and outside of the topcoat operation to provide additional durability and chip resistance.

Automobile and light-duty truck cavity wax—A coating, used at an automobile and light-duty truck assembly coating operation, applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

Automobile and light-duty truck deadener—A coating, used at an automobile and light-duty truck assembly coating operation, applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

Automobile and light-duty truck gasket/gasket sealing material—

(i) A fluid, used at an automobile and light-duty truck assembly coating operation, applied to coat a gasket or replace and perform the same function as a gasket.
(ii) The term includes room temperature vulcanization seal material.

Automobile and light-duty truck glass bonding primer—

(i) A primer, used at an automobile and light-duty truck assembly coating operation, applied to windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass bonding adhesives or the installation of adhesive bonded glass.
(ii) The term includes glass bonding and cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of adhesive or the installation of adhesive bonded glass.

*Automobile and light-duty truck lubricating wax/compound*—A protective lubricating material, used at an automobile and light-duty truck assembly coating operation, applied to vehicle hubs and hinges.

*Automobile and light-duty truck sealer*—

(i) A high viscosity material, used at an automobile and light-duty truck assembly coating operation, generally, but not always, applied in the paint shop after the body has received an EDP coating and before the application of subsequent coatings (for example, primer-surfacer). The primary purpose of the material is to fill body joints completely so that there is no intrusion of water, gases or corrosive materials into the passenger area of the body compartment.

(ii) The term is also known as sealant, sealant primer or caulk.

*Automobile and light-duty truck trunk interior coating*—A coating, used at an automobile and light-duty truck assembly coating operation outside of the primer-surfacer and topcoat operations, applied to the trunk interior to provide chip protection.

*Automobile and light-duty truck underbody coating*—A coating, used at an automobile and light-duty truck assembly coating operation, applied to the undercarriage or firewall to prevent corrosion or provide chip protection, or both.

*Automobile and light-duty truck weatherstrip adhesive*—An adhesive, used at an automobile and light-duty truck assembly coating operation, applied to weather-stripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

*Automobile Topcoat Protocol*—A guidance document by the United States Environmental Protection Agency for determining the daily volatile organic compound emission rate of automobile and light-duty truck primer-surfacer and topcoat operations (EPA-453/R-08-002, September 2008, or revisions).

*Body part*—

(i) An exterior part of a motor vehicle including the hood, fender, door, roof, quarter panel, deck lid, tail gate and cargo bed.

(ii) The term does not include a bumper, fascia or cladding.

*EDP—Electrodeposition primer*—

(i) A process of applying a protective, corrosion-resistant waterborne primer on exterior and interior surfaces that provides thorough coverage of recessed areas. It is a dip coating method that uses an electrical field to apply or deposit the conductive coating onto the part. The object being painted acts as an electrode that is oppositely charged from the particles of paint in the dip tank.

(ii) The term is also known as E-Coat, Uni-Prime and ELPO primer.
Final repair—The operations performed and coating or coatings applied to completely assembled motor vehicles or to parts that are not yet on a completely assembled vehicle to correct damage or imperfections in the coating. The curing of the coatings applied in these operations is accomplished at a lower temperature than that used for curing primer-surfacer and topcoat. This lower temperature cure avoids the need to send parts that are not yet on a completely assembled vehicle through the same type of curing process used for primer-surfacer and topcoat and is necessary to protect heat sensitive components on completely assembled vehicles.

Heavier vehicle—A self-propelled vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

In-line repair—
(i) The operation performed and coating or coatings applied to correct damage or imperfections in the topcoat on parts that are not yet on a completely assembled vehicle. The curing of the coatings applied in these operations is accomplished at essentially the same temperature as that used for curing the previously applied topcoat. This operation is considered part of the topcoat operation.
(ii) The term is also known as high bake repair or high bake reprocess.

Light-duty truck—A van, sport utility vehicle or motor vehicle designed primarily to transport light loads of property with a gross vehicle weight rating of 8,500 pounds or less.

Primer-surfacer—
(i) An intermediate protective coating applied over the EDP and under the topcoat. The coating provides adhesion, protection and appearance properties to the total finish.
(ii) The coating operation may include one or more other coatings, including antichip, lower-body antichip, chip-resistant edge primer, spot primer, blackout, deadener, interior color, basecoat replacement coating or other coating, that is applied in the same spray booth.
(iii) The term is also known as guide coat or surfacer.

Solids turnover ratio (RT)—The ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

Topcoat—
(i) The final coating system applied to provide the final color or a protective finish, or both. The coating may be a monocoat color or basecoat/clearcoat system.
(ii) The coating operation may include one or more other coatings including blackout, interior color or other coating that is applied in the same spray booth.
(iii) The term includes in-line repair and two-tone.
(c) Existing RACT permit. The requirements of this section supersede the requirements of a RACT permit issued under §§ 129.91—129.95 (relating to stationary sources of NOx and VOCs) to the owner or operator of a source subject to permits.
to this section prior to January 1, 2017, except to the extent the RACT permit contains more stringent requirements.

(d) VOC content limits.

(1) Beginning January 1, 2017, the VOC content limits specified in Tables I and II apply to an owner and operator of a facility that has total actual VOC emissions equal to or greater than 15 pounds (6.8 kilograms) per day, before consideration of controls, from all operations at the facility that apply an assembly coating subject to this section, including related cleaning activities.

(2) Beginning January 1, 2017, the VOC content limits specified in Tables I and II do not apply to the following:

(i) An owner and operator of a facility that has total actual VOC emissions below 15 pounds (6.8 kilograms) per day, before consideration of controls, from all operations at the facility that apply an assembly coating subject to this section, including related cleaning activities.

(ii) An assembly coating supplied in a container with a net volume of 16 ounces or less or a net weight of 1 pound or less.

(e) Work practice requirements. Beginning January 1, 2017, an owner and operator subject to subsection (d)(1) shall comply with the following work practices for:

(1) Coating-related activities. An owner and operator shall:

(i) Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

(ii) Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times except when depositing or removing these materials.

(iii) Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

(iv) Convey VOC-containing coatings, thinners and coating-related waste materials from one location to another in closed containers or pipes.

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

(2) Cleaning materials. An owner and operator shall develop and implement a written work practice plan to minimize VOC emissions from cleaning and purging of equipment associated with all coating operations for which emission limits are required. The written plan must specify practices and procedures to ensure that VOC emissions from the following operations are minimized:

(i) Vehicle body wiping.

(ii) Coating line purging.

(iii) Flushing of coating systems.

(iv) Cleaning of spray booth grates.

(v) Cleaning of spray booth walls.

(vi) Cleaning of spray booth equipment.

(vii) Cleaning external spray booth areas.

(viii) Other housekeeping measures, including:

(A) Storing all VOC-containing cleaning materials and used shop towels in closed containers.
(B) Ensuring that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials.

(C) Minimizing spills of VOC-containing cleaning materials and cleaning up spills immediately.

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

(E) Minimizing VOC emissions from cleaning of storage, mixing and conveying equipment.

(f) Compliance monitoring and recordkeeping. An owner or operator subject to this section shall maintain records sufficient to demonstrate compliance with this section.

(1) The owner or operator shall maintain daily records of the following parameters for each coating, thinner, component or cleaning material as supplied:

(i) The name and identification number.

(ii) The volume used.

(iii) The mix ratio.

(iv) The density or specific gravity.

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

(vi) The volume percent of solids for each EDP coating.

(vii) The VOC content.

(2) The owner or operator shall maintain a daily record of the VOC content of each as applied coating or cleaning material.

(3) The owner or operator shall:

(i) Maintain the records onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit or order issued by the Department.

(ii) Submit the records to the Department in an acceptable format upon receipt of a written request from the Department.

(4) The owner or operator subject to subsection (e) shall maintain the written work practice plan specified in subsection (e)(2) onsite and make it available to the Department upon request.

(g) Measurement, calculation, sampling and testing methodologies. The following measurement, calculation, sampling and testing methodologies shall be used to determine the amount of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations, as appropriate:

(1) Measurements of the volatile fraction of coatings shall be performed according to the following, as applicable:

(i) EPA Reference Method 24.

(ii) Appendix A of 40 CFR Part 63, Subpart PPPP (relating to National emission standards for hazardous air pollutants for surface coating of plastic parts and products), regarding determination of weight volatile matter content and weight solids content of reactive adhesives.

(iii) Manufacturer’s formulation data.
(2) Calculations of the VOC emissions and rates shall be performed according to the following, as applicable:

(i) Automobile Topcoat Protocol—Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfercer and Topcoat Operations, EPA-453/R-08-002, including updates and revisions. This protocol applies to the owner and operator of a facility that coats a body or body part for a new heavier vehicle that elects under subsection (a)(3) to comply with this section instead of § 129.52d.

(ii) A Guideline for Surface Coating Calculations, EPA-340/1-86-016, including updates and revisions.

(iii) Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings, EPA-450/3-84-019, including updates and revisions.

(3) Sampling and testing shall be performed according to the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(4) Another method or procedure that has been approved in writing by the Department and the EPA.

### Table I. VOC Content Limits for Primary Assembly Coatings

<table>
<thead>
<tr>
<th>Assembly Coating</th>
<th>VOC Emission Limit</th>
</tr>
</thead>
</table>
| EDP operations (including application area, spray and rinse stations and curing oven) | When $R_T < 0.040$: 0.084 kg VOC/liter coating solids applied or 0.7 lb VOC/gal coating solids applied
|                                                      | When $0.040 <= R_T < 0.160$: 0.084 × 350 kg VOC/liter coating solids applied or 8.34 lb VOC/gal coating solids applied
|                                                      | When $R_T >= 0.160$: 0.084 × 350 $0.160$-1 kg VOC/liter coating solids applied or 8.34 lb VOC/gal coating solids applied |
| Primer-surfacer operations (including application area, flash-off area, and oven) | 1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol. |
| Topcoat operations (including application area, flash-off area, and oven)          | 1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol. |
| Final repair operations                                                              | 0.58 kg VOC/liter less water and less exempt solvents or 4.8 lbs VOC/gallon of coating less water and less exempt solvents on a daily weighted average basis or as an occurrence weighted average. |
Assembly Coating | VOC Emission Limit
--- | ---
Combined primer-surfacer and topcoat operations | 1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol.

1 \( R_p \) is the solids turnover ratio. “Solids turnover ratio” is defined in subsection (b).

### Table II. VOC Content Limits for Additional Assembly Coatings (grams of VOC per liter of coating excluding water and exempt compounds) as Applied

<table>
<thead>
<tr>
<th>Material</th>
<th>g VOC/liter coating less water and exempt compounds</th>
<th>lb VOC/gal coating less water and exempt compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile and Light-duty Truck Glass Bonding Primer</td>
<td>900</td>
<td>7.51</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Adhesive</td>
<td>250</td>
<td>2.09</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Cavity Wax</td>
<td>650</td>
<td>5.4</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Sealer</td>
<td>650</td>
<td>5.4</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Deadener</td>
<td>650</td>
<td>5.4</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Gasket/Gasket Sealing Material</td>
<td>200</td>
<td>1.7</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Underbody Coating</td>
<td>650</td>
<td>5.4</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Trunk Interior Coating</td>
<td>650</td>
<td>5.4</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Bedliner</td>
<td>200</td>
<td>1.7</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Lubricating Wax/Compound</td>
<td>700</td>
<td>5.8</td>
</tr>
<tr>
<td>Automobile and Light-duty Truck Weatherstrip Adhesive</td>
<td>750</td>
<td>6.26</td>
</tr>
</tbody>
</table>

2 The owner and operator of a facility that coats a body or body part, or both, for a new heavier vehicle that elects under subsection (a)(3) to comply with this section instead of § 129.52d shall comply with these limits for equivalent coating materials.

### Authority
The provisions of this § 129.52e issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

129-32.27

(393461) No. 528 Nov. 18
§ 129.53. [Reserved].

Source

§ 129.54. Seasonal operation of auxiliary incineration equipment.
Where incineration equipment employing natural gas as the auxiliary fuel has been installed to effect compliance with the discharge limitation of § 129.52, §§ 129.55—129.64 or §§ 129.67—129.69, the Department may authorize the discontinuation of the operation of the equipment for the purpose of fuel conservation during the months of December, January and February if the operation of the equipment is not required for purposes of occupational health or safety or for the control of toxic substances or other regulated substances or for the prevention of odor nuisances. Authorization to discontinue operation of the incineration equipment may be made only after receipt of a written request from the owner or operator of an applicable facility. Authorization will be made in writing and may be similarly revoked by the Department if the revocation is found necessary for the attainment or maintenance of an air pollutant standard.

Authority
The provisions of this § 129.54 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source
§ 129.55. Petroleum refineries—specific sources.

(a) Wastewater separators. No person may permit the use of a compartment of a single or multiple compartment volatile organic compound wastewater separator which compartment receives effluent water containing 200 gallons a day or more of any volatile organic compound from equipment processing, refining, treating, storing or handling volatile organic compounds unless the compartment is equipped with one of the following vapor loss control devices—properly installed, in good working order, and in operation—as follows:

1. A container having openings sealed and totally enclosing the liquid contents. Gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

2. A container equipped with a floating roof—consisting of a pontoon-type roof, double-deck-type roof or internal floating cover—which will rest on the surface of the contents and be equipped with a closure seal or seals to close the space between the roof edge and container wall. Gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(b) Pumps and compressors. Pumps and compressors handling volatile organic compounds with a vapor pressure of greater than 1.5 psi (10.3 kilopascals) at actual conditions shall have mechanical seals. For the purpose of determining vapor pressure, a temperature no greater than 100° F shall be used.

(c) Vacuum-producing systems. Vacuum producing systems shall conform with the following:

1. The owner or operator of any vacuum-producing systems at a petroleum refinery may not permit the emission of volatile organic compounds from the condensers, hot wells or accumulators of the system.

2. The emission limit under paragraph (1) shall be achieved by one of the following:

   (i) Piping the vapors to a firebox or incinerator.

   (ii) Compressing the vapors and adding them to the refinery fuel gas.

   (iii) A method approved by the Department which recovers no less than 90% by weight of uncontrolled volatile organic compounds that would otherwise be emitted to the atmosphere.

(d) Process unit turnarounds. Purging of volatile organic compounds during depressurization of reactors, fractionating columns, pipes or vessels during unit shutdown, repair, inspection or startup shall be performed in such a manner as to direct the volatile organic vapors to a fuel gas system, flare or vapor recovery system until the internal pressure in such equipment reaches 19.7 psia (136 kilopascals).
§ 129.56. Storage tanks greater than 40,000 gallons capacity containing VOCs.

(a) No person may permit the placing, storing or holding in a stationary tank, reservoir or other container with a capacity greater than 40,000 gallons of volatile organic compounds with a vapor pressure greater than 1.5 psia (10.5 kilopascals) under actual storage conditions unless the tank, reservoir or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere or is designed and equipped with one of the following vapor loss control devices:

(1) An external or an internal floating roof. This control equipment may not be permitted if the volatile organic compounds have a vapor pressure of 11 psia (76 kilopascals) or greater under actual storage conditions.

(2) Vapor recovery system. A vapor recovery system, consisting of a vapor gathering system capable of collecting the volatile organic compound vapors and gases discharged and a vapor disposal system capable of processing such volatile organic vapors and gases so as to prevent their emission to the atmosphere. Tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. The vapor recovery system shall be maintained in good working order and recover at least 80% of the vapors emitted by such tank.

(b) An external floating roof shall be fitted with a primary seal and a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal). The external floating roof shall meet the following equipment requirements:

(1) Seal closure devices shall meet the following requirements:
   (i) There are no visible holes, tears or other openings in the seals or seal fabric.
   (ii) The seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.
   (iii) For tanks with vapor-mounted primary seals, the accumulated area of gaps exceeding 1/8 inch in width between the secondary seal and the tank wall shall not exceed 1 square inch per foot of tank diameter. Compliance with this subsection shall be determined by physically measuring the length and width of gaps around the entire circumference of the secondary seal in
each place where a 1/8 inch uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall and by summing the area of the individual gaps.

(2) Openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeves, are as follows:
   (i) Equipped with covers, seals or lids in the closed position except when the openings are in actual use.
   (ii) Equipped with projections into the tank which remain below the liquid surface at all times.

(3) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.

(4) Rim vents are set to open when the roof is being floated off the leg supports or at the recommended setting of the manufacturer.

(5) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90% of the area of the opening.

(c) An internal floating roof shall be fitted with a primary seal and shall comply with the following equipment requirements:
   (1) A closure seal or seals, to close the space between the roof edge and tank wall is used.
   (2) There are no holes, tears or other openings in the seal or a seal fabric or materials.
   (3) Openings except stub drains are equipped with covers, lids or seals such that:
      (i) The cover, lid or seal is in the closed position at all times except when in actual use.
      (ii) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.
      (iii) Rim vents, if provided are set to open when the roof is being floated off the roof leg supports or at the recommended setting of the manufacturer.

(d) This section does not apply to petroleum liquid storage vessels which:
   (1) Are used to store waxy, heavy pour crude oil.
   (2) Have capacities less than 420,000 gallons and are used to store produced crude oil and condensate prior to lease custody transfer.
   (e) For the purposes of this section, the petroleum liquid storage vessels listed in this subsection comply with the equipment requirements of this section. These tanks shall comply with the maintenance, inspection and reporting requirements of this section. These petroleum liquid storage vessels are those:
      (1) Which contain a petroleum liquid with a true vapor pressure less than 4 psia (27.6 kilopascals) and which are of welded construction and which presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal or other closure device of demonstrated equivalence approved by the Department.
(2) Which are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

(f) The owner or operator of a petroleum liquid storage vessel with a floating roof subject to this regulation shall:

(1) Perform routine inspections annually in order to insure compliance with subsection (b) or (c). The inspection shall include a visual inspection of the secondary seal gap when inspecting external floating roof tanks.

(2) For external floating roof tanks, measure the secondary seal gap annually in accordance with subsection (b)(1)(iii) when the floating roof is equipped with a vapor-mounted primary seal.

(3) Maintain records of the types of volatile petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of the inspections performed in subsection (f)(1) and (2). Copies of the records shall be retained by the owner or operator for a period of 2 years after the date on which the record was made and shall be made available to the Department upon written or verbal request at a reasonable time.

(g) For volatile organic compounds whose storage temperature is governed by ambient weather conditions, the vapor pressure under actual storage conditions shall be determined using a temperature which is representative of the average storage temperature for the hottest month of the year in which the storage takes place.

(h) If a failure is detected during inspections required in this section, the owner or operator, or both, shall repair the items or empty and remove the storage vessel from service within 45 days. If this failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Department. A request for an extension shall document that alternate storage capacity is unavailable and specify a schedule of actions the owner or operator will take that will assure that the equipment will be repaired or the vessel will be emptied as soon as possible but within the additional 30-day time requested.

Authority

The provisions of this § 129.56 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

§ 129.57. Storage tanks less than or equal to 40,000 gallons capacity containing VOCs.

The provisions of this section apply to above ground stationary storage tanks with a capacity equal to or greater than 2,000 gallons which contain volatile organic compounds with vapor pressure greater than 1.5 psia (10.5 kilopascals) under actual storage conditions. Storage tanks covered under this section shall have pressure relief valves which are maintained in good operating condition and which are set to release at no less than .7 psig (4.8 kilopascals) of pressure or .3 psig (2.1 kilopascals) of vacuum or the highest possible pressure and vacuum in accordance with state or local fire codes or the National Fire Prevention Association guidelines or other national consensus standards acceptable to the Department. Section 129.56(g) (relating to storage tanks greater than 40,000 gallons capacity containing VOCs) applies to this section. Petroleum liquid storage vessels which are used to store produced crude oil and condensate prior to lease custody transfer shall be exempt from the requirements of this section.

Authority

The provisions of this § 129.57 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


§ 129.58. Petroleum refineries—fugitive sources.

(a) The owner or operator of a petroleum refinery shall do the following:

(1) Develop and conduct a monitoring program consistent with the provisions of subsection (d).

(2) Record leaking refinery components which have a VOC concentration exceeding 10,000 ppm when tested in accordance with the provisions of...
§ 139.14 (relating to emissions of VOCs) and place an identifying tag on each refinery component consistent with the provisions in subsection (d)(3).

(3) Repair and retest the leaking refinery components as soon as possible. Every reasonable effort shall be made to repair each leak within 15 days unless a refinery unit shutdown is required to make the necessary repair.

(4) Identify leaking refinery components which cannot be repaired until the unit is shutdown for turnaround.

(b) Except for safety pressure relief valves and fittings on valves 1 inch or smaller, no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing VOCs unless the pipe or line is sealed with a second valve, a blind flange, a plug or a cap. The sealing device may be removed only when a sample is being taken or during maintenance operations.

(c) Pipeline valves and pressure relief valves in gaseous VOC service shall be marked in some manner that will be readily obvious to both refinery personnel performing monitoring and the Department.

(d) Monitoring shall be done as follows:

(1) The owner or operator of a petroleum refinery shall conduct a monitoring program consistent with the following requirements:

(i) Check yearly, by methods referenced in § 139.14, pump seals and pipeline valves in liquid service.

(ii) Check quarterly, by methods referenced in § 139.14, compressor seals, pipeline valves in gaseous service, and pressure relief valves in gaseous service.

(iii) Check monthly, by visual methods, pump seals.

(iv) Check within 24 hours, by methods referenced in § 139.14, a pump seal from which VOC liquids are observed to be dripping.

(v) Check, by methods referenced in § 139.14, a relief valve within 24 hours after it has vented to the atmosphere.

(vi) Check within 72 hours after repair, by methods referenced in § 139.14, a refinery component that was found leaking.

(2) Pressure relief devices which are connected to an operating flare header, vapor recovery devices, inaccessible valves, storage tank valves and valves that are not externally regulated are exempt from the monitoring requirements in paragraph (1).

(3) The owner or operator of a petroleum refinery, upon the detection of a leaking refinery component, shall affix a weatherproof and readily visible tag, bearing an identification number and the date upon which the leak is located to the leaking refinery component. This tag shall remain in place until the leaking refinery component is repaired.

(e) Record keeping shall comply with the following:

(1) The owner or operator of a petroleum refinery shall maintain a leaking refinery components’ monitoring log which shall contain, at a minimum, the following data:
(i) The name of the process unit where the refinery component is located.

(ii) The type of refinery component—for example, valve, seal.

(iii) The tag number of refinery component.

(iv) The dates on which the leaking refinery component was discovered and repaired.

(v) The date and instrument reading of the recheck procedure after a leaking refinery component was repaired.

(vi) A record of the calibration of the monitoring instrument.

(vii) Those leaks that cannot be repaired until turnaround.

(viii) The total number of refinery components checked and the total number of refinery components found leaking.

(2) Copies of the monitoring log shall be retained by the owner for 2 years after the date on which the record was made or the report was prepared.

(3) Copies of the monitoring log shall immediately be made available to the Department, upon verbal or written request, at any reasonable time.

(f) Reporting shall comply with the following:

(1) The owner or operator of a petroleum refinery, upon completion of each yearly and quarterly monitoring procedure, shall do the following:

   (i) Submit a report to the Department by the last business day of January, April, July and October that lists leaking refinery components that were located during the previous calendar quarter but not repaired within 15 days, leaking refinery components awaiting unit turnaround, the total number of refinery components inspected and the total number of refinery components found leaking.

   (ii) Submit a signed statement with the report attesting to the fact that, with the exception of those leaking refinery components listed in subparagraph (i), monitoring and repairs were performed as stipulated in the monitoring program.

(g) The owner or operator of a petroleum refinery may submit an alternative plan for the control of leaks from petroleum refinery equipment to the Department. If the Department finds that the alternative plan will achieve an emission reduction which is equivalent to or greater than the reduction which can be achieved under the provisions of this section and that the alternative plan is as enforceable as this section, then the Department will allow the implementation of this alternative plan.

(h) The owner or operator of a petroleum refinery may submit to the Department a list of refinery components the inspection of which would involve a significant element of danger. The Department may exempt the refinery components on this list from the requirements of this section if the owner or operator can demonstrate to the satisfaction of the Department that a significant element of
danger exists which cannot be reasonably eliminated and that these exemptions will not result in a significant reduction in the effectiveness in the control of VOC emissions.

Authority
The provisions of this § 129.58 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

Source

Cross References
This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.59. Bulk gasoline terminals.
(a) A person may not cause or permit the loading of gasoline into a vehicular tank from a bulk gasoline terminal unless the gasoline loading racks are equipped with a vapor collection and disposal system capable of processing volatile organic vapors and gases so that no more than 0.0668 pounds (30.3 grams) of gasoline (measured as propane) are emitted to the atmosphere for every 100 gallons (380 liters) of gasoline loaded.

(b) A person may not cause or permit the loading of gasoline into a vehicular tank from a bulk gasoline terminal unless the gasoline loading racks are equipped with a loading arm with a vapor collection adaptor and pneumatic, hydraulic or other mechanical means to force a vapor-tight seal between the adaptor and the hatch of the tank. A means shall be provided to prevent gasoline drainage from the loading device when it is not connected to the hatch, and to accomplish complete drainage before the removal. When loading is effected through means other than hatches, loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which will be closed upon disconnection.

(c) An owner or operator of a bulk gasoline plant shall maintain records of daily throughput. These records shall be retained for at least 2 years and shall be made available to the Department on request.

Authority
The provisions of this § 129.59 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).
§ 129.60. Bulk gasoline plants.

(a) A person may not cause or permit the loading of gasoline into a vehicular receiving tank from a bulk gasoline plant unless the loading is:

(1) Bottom filled with the inlet flush with the receiving vehicular tank bottom.

(2) Top-submerged filled with the fill pipe extended to within 6 inches of the bottom of the receiving vehicular tank during top-submerged filling operations.

(b) A person may not cause or permit the loading of gasoline into the stationary tanks of a bulk gasoline plant from a tank truck delivering gasoline to the bulk gasoline plant unless a vapor balancing technique is employed. The displaced vapors from the storage tank shall be transferred to the dispensing delivery tank during loading operations, and these vapors shall be processed for disposal in accordance with § 129.59 (relating to bulk gasoline terminals). This subsection is not applicable to storage tanks which conform to § 129.56(a)(1) or (2) (relating to storage tanks greater than 40,000 gallons capacity containing VOCs).

(c) A person may not cause or permit the loading of gasoline from a bulk gasoline plant with a daily throughput since January 1, 1987 of greater than 4,000 gallons (15,200 liters) into a tank truck with a capacity greater than 250 gallons (950 liters) unless a vapor balance system is employed. The displaced vapors from the tank truck shall be transferred to the stationary tanks of the bulk gasoline plant during loading operations. A storage tank at a bulk gasoline plant which is controlled under § 129.56(a)(1) or (2) shall have a vapor recovery unit and process vapors from gasoline loading in accordance with § 129.59.

(d) An owner or operator of a bulk gasoline plant shall maintain records of daily throughput. These records shall be retained for at least 2 years and shall be made available to the Department on request.
§ 129.60 Small gasoline storage tank control (Stage I control).

(a) This section applies Statewide to stationary gasoline storage tanks with a capacity of greater than 2,000 gallons.

(b) A person may not transfer gasoline from a delivery vessel into a stationary gasoline storage tank unless the displaced vapors from the storage tank are transferred to the dispensing delivery tank through a vapor right return line and unless the receiving tank is equipped with a submerged fill pipe which extends from the filling orifice to within 6 inches of the bottom of the tank. The vapors collected in the dispensing tank shall be disposed of in accordance with § 129.59 or § 129.60(c) (relating to bulk gasoline terminals; and bulk gasoline plants).

(c) The dispensing delivery tank shall remain vapor tight at all times. The delivery tank may be opened after the vapors are disposed of in accordance with § 129.59 or § 129.60(c).

Authority
The provisions of this § 129.60 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

Cross References
This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.61 (relating to small gasoline storage tank control (Stage I control)); 25 Pa. Code § 129.62 (relating to general standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).
§ 129.62. General standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks.

(a) Gasoline may not be spilled or discarded in sewers or stored in open containers or handled in a manner that would result in uncontrolled evaporation to the atmosphere.

(b) An owner or operator of a bulk gasoline plant, bulk gasoline terminal, tank truck or trailer or stationary storage tank to which § 129.59, § 129.60(b) or (c) or § 129.61 (relating to bulk gasoline terminals; bulk gasoline plants; and small gasoline storage tank control (Stage I control)) apply may not permit the transfer of gasoline between the tank truck or trailer and a stationary storage tank unless the following conditions are met:

(1) The vapor balance system is in good working order and is designed and operated in a manner that prevents:

   (i) Gauge pressure from exceeding 18 inches of H₂O (4500 pascals) and vacuum from exceeding 6 inches of water (1500 pascals) in the gasoline tank truck.

   (ii) A reading equal to or greater than 100% of the lower explosive limit—LEL, measured as propane—at 1 inch from points on the perimeter of a potential leak source when measured by the method referenced in § 139.14 (relating to emissions of VOCs) during loading or unloading operations at small gasoline storage tanks, bulk plants and bulk terminals.

   (iii) Avoidable liquid leaks during loading or unloading operations at small gasoline storage tanks, bulk plants and bulk terminals.

(2) A truck, vapor balance system or vapor disposal system, if applicable, that exceeds the limits in paragraph (1) is repaired and retested within 15 days.

(3) There are no visually- or audibly-detectable leaks in the tank truck’s or trailer’s pressure/vacuum relief valves and hatch covers, the truck tanks or storage tanks, or associated vapor and liquid lines during loading or unloading.

(4) The pressure and vacuum relief valves on storage vessels and tank trucks or trailers are set to release at no less than .7 psig (4.8 kilopascals) of pressure or .3 psig (2.1 kilopascals) of vacuum or the highest allowable pressure and vacuum as specified in State or local fire codes, the National Fire Prevention Association guidelines or other National consensus standards acceptable to the Department. Upon demonstration by the owner or operator of an underground small gasoline storage tank that the vapor balance system specified in paragraph (1) will achieve a 90% vapor recovery efficiency without a
pressure and vacuum relief valve and that an interlock system, sufficient to
ensure connection of the vapor recovery line prior to delivery of the gasoline,
will be used—no pressure and vacuum relief valve is required. The vacuum
setting on the pressure and vacuum relief valve on an underground storage tank
may be set at the lowest vacuum setting which is sufficient to keep the vent
closed at zero pressure and vacuum.

(c) A person may not allow a gasoline tank truck subject to § 129.59,
§ 129.60 or § 129.61 to be filled or emptied in a geographic area specified in
§ 129.61(a) unless the gasoline tank truck:

(1) Has been tested by the owner or operator within the immediately pre-
ceding 12 months in accordance with § 139.14.

(2) Sustains a pressure change of no more than 750 pascals (3 inches of
H₂O) in 5 minutes when pressurized to a gauge pressure of 18 inches of H₂O
(4,500 pascals) or evacuated to a gauge pressure of 6 inches of H₂O (1,500
pascals) during the testing required in paragraph (1).

(3) Is repaired by the owner or operator and retested within 15 days of
testing if it does not meet the criteria in paragraph (2).

(4) Displays a clear marking near the Department of Transportation Certi-
fication plate required by 49 CFR 178.340-10b (relating to certification), which
shows the most recent date upon which the gasoline tank truck passed the test
required in this subsection.

(d) Reporting and recordkeeping shall be as follows:

(1) The owner or operator of a source of VOCs subject to subsection (c)
shall maintain records of certification testing and repairs. The records shall
identify the gasoline tank truck, vapor collection system or vapor control sys-
tem; the date of the test or repair; and, if applicable, the type of repair and the
date of retest. The records shall be maintained in a legible, readily-available
condition for 1 year after the date the testing or repair was completed.

(2) The records of certification tests required by paragraph (1) shall con-
tain:

(i) The gasoline tank truck tank serial number.

(ii) The initial test pressure and the time of the reading.

(iii) The final test pressure and the time of the reading.

(iv) The initial test vacuum and the time of the reading.

(v) The final test vacuum and the time of the reading.

(vi) At the top of each report page, the company name and the date and
location of the tests on that page.

(vii) The name and title of the person conducting the test.

(3) Copies of records and reports under this subsection shall be made
available to the Department upon verbal or written request at any reasonable
time. A copy of the test results for each gasoline tank shall be kept with the
truck.
(e) Gasoline tank trucks with a rated capacity of less than 4,800 gallons are exempt from subsections (c) and (d).

Authority

The provisions of this § 129.62 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.63. Degreasing operations.

(a) Cold cleaning machines. Except for those subject to the Federal National emissions standards for hazardous air pollutants (NESHAP) for halogenated solvent cleaners under 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories), this subsection applies to cold cleaning machines that use 2 gallons or more of solvents containing greater than 5% VOC content by weight for the cleaning of metal parts.

(1) Immersion cold cleaning machines shall have a freeboard ratio of 0.50 or greater.

(2) Immersion cold cleaning machines and remote reservoir cold cleaning machines shall:

(i) Have a permanent, conspicuous label summarizing the operating requirements in paragraph (3). In addition, the label shall include the following discretionary good operating practices:

(A) Cleaned parts should be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts should be positioned so that solvent drains directly back to the cold cleaning machine.

(B) When a pump-agitated solvent bath is used, the agitator should be operated to produce a rolling motion of the solvent with no observable splashing of the solvent against the tank walls or the parts being cleaned.

(C) Work area fans should be located and positioned so that they do not blow across the opening of the degreaser unit.
(ii) Be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent. For remote reservoir cold cleaning machines which drain directly into the solvent storage reservoir, a perforated drain with a diameter of not more than 6 inches shall constitute an acceptable cover.

(3) Cold cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Flushing of parts using a flexible hose or other flushing device shall be performed only within the cold cleaning machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(iii) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the cold cleaning machine.

(iv) Air agitated solvent baths may not be used.

(v) Spills during solvent transfer and use of the cold cleaning machine shall be cleaned up immediately.

(4) After December 22, 2002, a person may not use, sell or offer for sale for use in a cold cleaning machine any solvent with a vapor pressure of 1.0 millimeter of mercury (mm Hg) or greater and containing greater than 5% VOC by weight, measured at 20°C (68°F) containing VOCs.

(5) On and after December 22, 2002, a person who sells or offers for sale any solvent containing VOCs for use in a cold cleaning machine shall provide, to the purchaser, the following written information:

(i) The name and address of the solvent supplier.

(ii) The type of solvent including the product or vendor identification number.

(iii) The vapor pressure of the solvent measured in mm hg at 20°C (68°F).

(6) A person who operates a cold cleaning machine shall maintain for at least 2 years and shall provide to the Department, on request, the information specified in paragraph (5). An invoice, bill of sale, certificate that corresponds to a number of sales, Material Safety Data Sheet (MSDS), or other appropriate documentation acceptable to the Department may be used to comply with this section.

(7) Paragraph (4) does not apply:

(i) To cold cleaning machines used in extreme cleaning service.

(ii) If the owner or operator of the cold cleaning machine demonstrates, and the Department approves in writing, that compliance with paragraph (4) will result in unsafe operating conditions.

(iii) To immersion cold cleaning machines with a freeboard ratio equal to or greater than 0.75.
(b) **Batch vapor cleaning machines.** Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this subsection applies to batch vapor cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.

(1) Batch vapor cleaning machines shall be equipped with:

   (i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone. If the solvent cleaning machine opening is greater than 10 square feet, the cover shall be powered. If a lip exhaust is used, the closed cover shall be below the level of the lip exhaust.

   (ii) Sides which result in a freeboard ratio greater than or equal to 0.75.

   (iii) A safety switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

   (iv) A vapor up control switch which shuts off the spray pump if vapor is not present. A vapor up control switch is not required if the vapor cleaning machine is not equipped with a spray pump.

   (v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts or parts are entering or exiting the vapor zone. If the parts basket being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts or parts basket may not exceed 3 feet per minute.

   (vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

   (vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

   (viii) A permanent, conspicuous label summarizing the operating requirements in paragraph (4).

(2) In addition to the requirements of paragraph (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of 13 square feet or less shall implement one of the following options:

   (i) A working mode cover, freeboard ratio of 1.0, and superheated vapor.

   (ii) A freeboard refrigeration device and superheated vapor.

   (iii) A working mode cover and a freeboard refrigeration device.

   (iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor.

   (v) A freeboard refrigeration device and reduced room draft.

   (vi) A freeboard refrigeration device and a freeboard ratio of 1.0.

   (vii) A freeboard refrigeration device and dwell.

   (viii) Reduced room draft, dwell and a freeboard ratio of 1.0.
(ix) A freeboard refrigeration device and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

(x) A freeboard ratio of 1.0, superheated vapor and a carbon adsorber.

(3) In addition to the requirements of paragraph (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of greater than 13 square feet shall use one of the following devices or strategies:

(i) A freeboard refrigeration device, a freeboard ratio of 1.0 and superheated vapor.

(ii) Dwell, a freeboard refrigeration device and reduced room draft.

(iii) A working mode cover, a freeboard refrigeration device and superheated vapor.

(iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor.

(v) A freeboard refrigeration device, reduced room draft and superheated vapor.

(vi) A freeboard refrigeration device, reduced room draft and a freeboard ratio of 1.0.

(vii) A freeboard refrigeration device, superheated vapor and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

(4) Batch vapor cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. A superheated vapor system shall be an acceptable alternate technology.

(iii) Parts or parts baskets may not be removed from the batch vapor cleaning machine until dripping has ceased.

(iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the batch vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the batch vapor cleaning machine.

(vi) Spills during solvent transfer and use of the batch vapor cleaning machine shall be cleaned up immediately.

(vii) Work area fans shall be located and positioned so that they do not blow across the opening of the batch vapor cleaning machine.
(viii) During startup of the batch vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(ix) During shutdown of the batch vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(x) When solvent is added to or drained from the batch vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(xi) The working and downtime covers shall be closed at all times except during parts entry and exit from the machine, during maintenance of the machine when the solvent has been removed and during addition of solvent to the machine.

(c) In-line vapor cleaning machines. Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this section applies to in-line vapor cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.

(1) In-line vapor cleaning machines shall be equipped with:

(i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone.

(ii) A switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

(iii) Sides which result in a freeboard ratio greater than or equal to 0.75.

(iv) A vapor up control switch.

(v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts or parts basket being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts or parts basket may not exceed 3 feet per minute.

(vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(viii) A permanent, conspicuous label summarizing the operating requirements in paragraph (3).

(2) In addition to the requirements of paragraph (1), the operator of an in-line vapor cleaning machine shall use one of the following devices or strategies:

(i) A freeboard ratio of 1.0 and superheated vapor.

(ii) A freeboard refrigeration device and a freeboard ratio of 1.0.
(iii) Dwell and a freeboard refrigeration device.
(iv) Dwell and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

(3) In-line vapor cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

(iii) Parts or parts baskets may not be removed from the in-line vapor cleaning machine until dripping has ceased.

(iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the in-line vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the in-line vapor cleaning machine.

(vi) Spills during solvent transfer and use of the in-line vapor cleaning machine shall be cleaned up immediately.

(vii) Work area fans shall be located and positioned so that they do not blow across the in-line vapor cleaning machine.

(viii) During startup of the in-line vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(ix) During shutdown of the in-line vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(x) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

(xi) When solvent is added to or drained from the in-line vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(d) Airless cleaning machines and airtight cleaning machines. Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this section applies to airless cleaning machines and airtight cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.
(1) The operator of each machine shall maintain a log of solvent additions and deletions for each machine including the weight of solvent contained in activated carbon or other sorbent material used to control emissions from the cleaning machine.

(2) The operator of each machine shall demonstrate that the emissions from each machine, on a 3-month rolling average, are equal to or less than the allowable limit determined by the use of the following equation:

\[ EL = 330 \times \text{vol}^{0.6} \]

where:
- \( EL \) = the 3-month rolling average monthly emission limit (kilograms/month).
- \( \text{vol} \) = the cleaning capacity of machine (cubic meters)

(3) The operator of each machine equipped with a solvent adsorber shall measure and record the concentration of solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube designed to measure a concentration of 100 ppm by volume of solvent to air at an accuracy of \( \pm 25 \) ppm by volume. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the adsorber.

(4) The operator of each machine equipped with a solvent adsorber shall maintain and operate the machine and adsorber system so that emissions from the adsorber exhaust do not exceed 100 ppm by volume measured while the solvent cleaning machine is in the working mode and is venting to the adsorber.

(5) The machine shall be equipped with a permanent, conspicuous label summarizing the operating requirements in paragraph (6).

(6) Airless cleaning machines and airtight cleaning machines shall be operated in accordance with the following procedures:

   (i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

   (ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

   (iii) Parts or parts baskets may not be removed from the in-line vapor cleaning machine until dripping has ceased.

   (iv) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the airless cleaning machines and airtight cleaning machines.

   (v) Spills during solvent transfer and use of the airless cleaning machines and airtight cleaning machines shall be cleaned up immediately.

   (vi) Work area fans shall be located and positioned so that they do not blow across the airless cleaning machine and airtight cleaning machine.
(vii) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

(viii) When solvent is added to or drained from the airless cleaning machine and airtight cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(e) Alternative provisions for solvent cleaning machines. This section applies to all solvent cleaning machines used to process metal parts that use solvents containing greater than 5% VOC by weight. As an alternative to complying with subsections (b)—(d), the operator of a solvent cleaning machine may demonstrate compliance with paragraph (1) or (2). The operator shall maintain records sufficient to demonstrate compliance. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal and shall be maintained for at least 2 years.

(1) If the solvent cleaning machine has a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in Table 1:

<table>
<thead>
<tr>
<th>Solvent cleaning machine</th>
<th>3-month rolling average monthly emission limit (kg/m²/month)</th>
<th>lb/ft²/month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch vapor solvent cleaning machines</td>
<td>150</td>
<td>30.7</td>
</tr>
<tr>
<td>Existing in-line solvent cleaning machines</td>
<td>153</td>
<td>31.3</td>
</tr>
<tr>
<td>In-line solvent cleaning machines installed after the effective date of the regulation</td>
<td>99</td>
<td>20.2</td>
</tr>
</tbody>
</table>

(2) If the solvent cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in paragraphs (3) and (4).

(3) For solvent cleaning machines without a solvent/air interface with a cleaning capacity that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using Table 2 or the equation in paragraph (4). If the
table is used, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, the lower of the two emission limits applies.

(4) For cleaning machines without a solvent/air interface with a cleaning capacity that is greater than 2.95 cubic meters, the emission limit shall be determined using the following equation.

\[ EL = 330 \times (\text{vol})^{0.6} \]

where:
- \( EL \) = the 3-month rolling average monthly emission limit (kilograms/month)
- \( \text{vol} \) = the cleaning capacity of machine (cubic meters)

(5) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with this subsection shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis. If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. Exceedances shall be reported to the Department within 30 days of the determination of the exceedance.
### Table 2. Emission Limits for Solvent Cleaning Machines Without a Solvent/Air Interface

<table>
<thead>
<tr>
<th>Cleaning capacity (cubic meters)</th>
<th>3-month rolling average monthly emission limit (kilograms/month)</th>
<th>Cleaning capacity (cubic meters)</th>
<th>3-month rolling average monthly emission limit (kilograms/month)</th>
<th>Cleaning capacity (cubic meters)</th>
<th>3-month rolling average monthly emission limit (kilograms/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0</td>
<td>1.00</td>
<td>330</td>
<td>2.00</td>
<td>500</td>
</tr>
<tr>
<td>0.05</td>
<td>55</td>
<td>1.05</td>
<td>340</td>
<td>2.05</td>
<td>508</td>
</tr>
<tr>
<td>0.10</td>
<td>83</td>
<td>1.10</td>
<td>349</td>
<td>2.10</td>
<td>515</td>
</tr>
<tr>
<td>0.15</td>
<td>106</td>
<td>1.15</td>
<td>359</td>
<td>2.15</td>
<td>522</td>
</tr>
<tr>
<td>0.20</td>
<td>126</td>
<td>1.20</td>
<td>368</td>
<td>2.20</td>
<td>530</td>
</tr>
<tr>
<td>0.25</td>
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<td>1.25</td>
<td>377</td>
<td>2.25</td>
<td>537</td>
</tr>
<tr>
<td>0.30</td>
<td>160</td>
<td>1.30</td>
<td>386</td>
<td>2.30</td>
<td>544</td>
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<tr>
<td>0.35</td>
<td>176</td>
<td>1.35</td>
<td>395</td>
<td>2.35</td>
<td>551</td>
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<tr>
<td>0.40</td>
<td>190</td>
<td>1.40</td>
<td>404</td>
<td>2.40</td>
<td>558</td>
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<tr>
<td>0.45</td>
<td>204</td>
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<td>412</td>
<td>2.45</td>
<td>565</td>
</tr>
<tr>
<td>0.50</td>
<td>218</td>
<td>1.50</td>
<td>421</td>
<td>2.50</td>
<td>572</td>
</tr>
<tr>
<td>0.55</td>
<td>231</td>
<td>1.55</td>
<td>429</td>
<td>2.55</td>
<td>579</td>
</tr>
<tr>
<td>0.60</td>
<td>243</td>
<td>1.60</td>
<td>438</td>
<td>2.60</td>
<td>585</td>
</tr>
<tr>
<td>0.65</td>
<td>255</td>
<td>1.65</td>
<td>446</td>
<td>2.65</td>
<td>592</td>
</tr>
<tr>
<td>Cleaning capacity (cubic meters)</td>
<td>3-month rolling average monthly emission limit (kilograms/month)</td>
<td>Cleaning capacity (cubic meters)</td>
<td>3-month rolling average monthly emission limit (kilograms/month)</td>
<td>Cleaning capacity (cubic meters)</td>
<td>3-month rolling average monthly emission limit (kilograms/month)</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>0.70</td>
<td>266</td>
<td>1.70</td>
<td>454</td>
<td>2.70</td>
<td>599</td>
</tr>
<tr>
<td>0.75</td>
<td>278</td>
<td>1.75</td>
<td>462</td>
<td>2.75</td>
<td>605</td>
</tr>
<tr>
<td>0.80</td>
<td>289</td>
<td>1.80</td>
<td>470</td>
<td>2.80</td>
<td>612</td>
</tr>
<tr>
<td>0.85</td>
<td>299</td>
<td>1.85</td>
<td>477</td>
<td>2.85</td>
<td>619</td>
</tr>
<tr>
<td>0.90</td>
<td>310</td>
<td>1.90</td>
<td>485</td>
<td>2.90</td>
<td>625</td>
</tr>
<tr>
<td>0.95</td>
<td>320</td>
<td>1.95</td>
<td>493</td>
<td>2.95</td>
<td>632</td>
</tr>
</tbody>
</table>
§ 129.63a. Control of VOC emissions from industrial cleaning solvents.

(a) Applicability. This section applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity at a cleaning unit operation, a work production-related work area or a part, product, tool, machinery, equipment, vessel, floor or wall.

(b) Definitions. The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise:

Cleaning activity—The use or application of an industrial cleaning solvent to remove a contaminant, such as an adhesive, ink, paint, dirt, soil, oil or grease, by wiping, flushing, brushing, soaking, dipping, spraying or a similar effort.

Cleaning unit operation—

(i) An operation at a facility that is a source of VOC emissions from a cleaning activity.

(ii) The term includes the following cleaning activities:

(A) Spray gun cleaning, including the spray gun, attached paint lines and other spray gun equipment used to apply a coating.

(B) Spray booth cleaning, including the interior surfaces of the booth and the equipment contained within the booth.

(C) Manufactured components cleaning as a step in a manufacturing process, including automobile bodies, furniture, sheet metal, glass windows, engine components, subassemblies, sheet metal panels, molded parts, electrical contacts, steel and copper components, tin-plated or silver-plated terminals, plastic parts, upholstered parts, circuit breaker cases, switch covers, threads and bolts.
(D) Parts cleaning, including applicator tips, brushes, machine parts, pumps, circuit boards, truck parts, engine blocks, gauges, cutoff steel, machined parts, tool dies, motors and assemblies, screws, oil guns, welded parts, bearings and filters.

(E) Equipment cleaning of a piece of production equipment in place to prevent cross-contamination or for maintenance purposes, including punch presses, electrical contacts on equipment, pump parts, packaging equipment, rollers, ink pans, carts, press frames and table tops.

(F) Line cleaning, including a pipe, hose or other line that conveys material like paint or resin, that is cleaned separately from a spray gun, tank or other process equipment.

(G) Floor cleaning in a production area of the facility.

(H) Tank cleaning, including a tank, mixing pot or process vessel and the attached lines.

(iii) The term does not include VOC emissions from the use or application of consumer products subject to Chapter 130, Subchapter B (relating to consumer products), including an institutional product or industrial and institutional product as defined in § 130.202 (relating to definitions) for cleaning offices, bathrooms or other areas that are not part of a cleaning unit operation or work production-related work area.

*Industrial cleaning solvent*—A product formulated with one or more regulated VOCs that is used in a cleaning activity for a cleaning unit operation.

*Regulated VOC*—An organic compound which participates in atmospheric photochemical reactions, that is, an organic compound other than those which the Administrator of the EPA designates in 40 CFR 51.100 (relating to definitions) as having negligible photochemical reactivity.

(c) Exceptions and exemptions.

(1) This section does not apply to all of the following:

(i) An owner or operator of a cleaning unit operation subject to § 129.63 (relating to degreasing operations) or 40 CFR Part 63, Subpart T (relating to National emission standards for halogenated solvent cleaning).

(ii) An owner or operator of a cleaning unit operation associated with a following category:

(A) Aerospace manufacturing and rework operations.

(B) Architectural coatings.

(C) Automobile and light-duty truck assembly coatings.

(D) Fabric coating.

(E) Fiberglass boat manufacturing materials.

(F) Flat wood paneling coatings.

(G) Flexible packaging printing materials.

(H) Graphic arts printing and coating operations.

(I) Large appliance coatings.

(J) Letterpress printing materials.
(K) Lithographic printing materials.
(L) Magnet wire coating operations.
(M) Marine vessel coating.
(N) Metal container, closure and coil coating.
(O) Metal furniture coatings.
(P) Miscellaneous metal parts coatings.
(Q) Miscellaneous industrial adhesives.
(R) Motor vehicle and mobile equipment coating operations.
(S) Paper, film and foil coating.
(T) Plastic parts coatings.
(U) Polyester resin operations.
(V) Semiconductor wafer fabrication operations.
(W) Shipbuilding and repair coatings.
(X) Wood furniture coatings.
(Y) Wood products coating.
(Z) Electrical and electronic components.
(AA) Precision optics.
(BB) Numismatic dies.
(CC) Stripping of cured inks, coatings and adhesives.
/DD) Cleaning of resin, coating, ink or adhesive mixing, molding and application equipment.
(EE) Resin, coating, ink and adhesive manufacturing.
(FF) Performance or quality assurance testing of coatings, inks or adhesives.
(GG) Flexible and rigid disc manufacturing.
(HH) Research and development laboratories.
(II) Medical device manufacturing.
(JJ) Pharmaceutical manufacturing.
(KK) Janitorial cleaning.
(LL) Digital printing.

(2) The VOC emission limitations in subsection (e) do not apply to the use or application of an industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) under either of the following circumstances:

(i) The use or application of the industrial cleaning solvent is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration or other Federal government entity. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(2).

(ii) The use or application of the industrial cleaning solvent is associated with the cleaning of screen printing equipment and the industrial cleaning solvent used or applied has an as applied VOC content that does not exceed 4.2 pounds of VOC per gallon (lb VOC/gal) (500 grams of VOC per
liter (g VOC/l)) of industrial cleaning solvent. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(3).

(3) The VOC emission limitations in subsection (e) and the work practice requirements in subsection (f) do not apply to the owner or operator of a facility subject to subsection (a) if the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(4).

(d) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a cleaning unit operation subject to this section prior to August 11, 2018, under §§ 129.91—129.95 (relating to stationary sources of NOx and VOCs) to control, reduce or minimize VOCs from cleaning unit operation cleaning activities at the facility, except to the extent the RACT permit contains more stringent requirements.

(e) *Emissions limitations.* Beginning August 11, 2018, the owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, may not cause or permit the emission into the outdoor atmosphere of VOCs from an industrial cleaning solvent used or applied in a cleaning unit operation subject to this section at the facility, unless one of the following limitations is met:

(1) *Compliant solvents.* The industrial cleaning solvent meets one of the following VOC limits:

   (i) A VOC content less than or equal to 0.42 lb VOC/gal (50 g VOC/l) as applied.

   (ii) A VOC composite vapor pressure less than or equal to 8 mm mercury at 68°F (20°C) as applied.

(2) *VOC emissions capture system and add-on air pollution control device.* The weight of VOCs emitted to the atmosphere from cleaning unit operation cleaning activities 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 emission reduction of a control system, as determined by the test methods and procedures specified in Chapter 139 (relating to sampling and testing), may be no less than 85% or may be no less than the equivalent efficiency as calculated by the following equation, whichever is less stringent:

\[
O = (1 - \frac{E}{V}) \times 100
\]

Where:

- \(O\) = The overall required control efficiency.
- \(E = 0.42\) lb VOC/gal or 50 g VOC/l.
- \(V\) = The VOC content of the industrial cleaning solvent in lb VOC/gal or g VOC/l.
Work practice requirements for industrial cleaning solvents, used shop towels and waste materials. The owner or operator of a facility subject to subsection (e) shall comply with all of the following work practices for industrial cleaning solvents and shop towels used in the cleaning unit operation cleaning activity:

1. Store all VOC-containing industrial cleaning solvents, used shop towels and related waste materials in closed containers.
2. Ensure that mixing and storage containers used for VOC-containing industrial cleaning solvents and related waste materials are kept closed at all times except when depositing or removing these materials.
3. Minimize spills of VOC-containing industrial cleaning solvents and related waste materials and clean up spills immediately.
4. Convey VOC-containing industrial cleaning solvents and related waste materials from one location to another in closed containers or pipes.
5. Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.
6. Minimize air circulation around cleaning unit operations.

Compliance demonstration. The owner or operator of a cleaning unit operation subject to this section shall demonstrate compliance as follows:

1. The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall do either of the following:
   (i) Ensure that industrial cleaning solvents used or applied in the subject cleaning unit operations at the facility meet the applicable emissions limitation in subsection (e)(1) and maintain records in accordance with subsection (h)(1)(i).
   (ii) Use a VOC emissions capture system and an add-on air pollution control device that meets the VOC emission reduction requirement under subsection (e)(2), equip the add-on air pollution control device with the applicable monitoring equipment and maintain records in accordance with subsection (h)(1)(ii). All of the following apply:
       (A) The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer’s specifications at all times when the add-on air pollution control device is operating.
       (B) The add-on air pollution control device must be operating when the cleaning activity is occurring.
2. The owner or operator of a cleaning unit operation subject to this section claiming exemption under:
   (i) Subsection (c)(2)(i) shall maintain records in accordance with subsection (h)(2).
   (ii) Subsection (c)(2)(ii) shall maintain records in accordance with subsection (h)(3).
(iii) Subsection (c)(3) shall maintain records in accordance with subsection (h)(4).

(3) The owner or operator of a cleaning unit operation subject to this section shall determine the VOC content of the industrial cleaning solvent as applied by conducting sampling and testing of the industrial cleaning solvent in accordance with the procedures and test methods specified in subsections (i) and (j) and Chapter 139.

(4) The owner or operator of a cleaning unit operation subject to paragraph (3) may use other test methods or documentation to demonstrate compliance with this section if approved in advance in writing by the Department and the EPA.

(h) Recordkeeping and reporting requirements. The owner or operator of a cleaning unit operation subject to this section shall comply with all of the following applicable recordkeeping and reporting requirements:

(1) The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall maintain all of the applicable records:

(i) For an owner or operator that complies with this section by using a complying industrial cleaning solvent under subsection (e)(1), records of all of the following parameters for each cleaning unit operation industrial cleaning solvent:

(A) The name and identification number.

(B) The weight percent of total volatiles, water and exempt solvents, as supplied.

(C) The VOC content or composite vapor pressure, as supplied. The composite vapor pressure as supplied shall be determined in accordance with subsections (i) and (j).

(D) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).

(E) The volume used or applied on a monthly basis.

(ii) For an owner or operator that complies with this section through the use of a VOC emissions capture system and an add-on air pollution control device under subsection (e)(2), records sufficient to demonstrate all of the following:

(A) Sampling and testing conducted in accordance with Chapter 139 as required under subsection (e)(2).

(B) Calibration, operation and maintenance of the monitoring equipment installed under subsection (g)(1)(ii) in accordance with manufacturer’s specifications.
(2) The owner or operator of a cleaning unit operation claiming exemption under subsection (c)(2)(i) shall maintain records of all of the following information for the exempt industrial cleaning solvent:
   (i) A copy of the applicable standard or specification.
   (ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).
   (iii) The volume used or applied monthly.

(3) The owner or operator of a screen printing equipment cleaning unit operation claiming exemption under subsection (c)(2)(ii) shall maintain records of all of the following information for the screen printing equipment industrial cleaning solvent:
   (i) The name and identification number.
   (ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).
   (iii) The volume used or applied monthly.

(4) The owner or operator of a facility claiming exemption under subsection (c)(3) shall maintain monthly records of the industrial cleaning solvents used or applied at the subject cleaning unit operations sufficient to demonstrate that the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(5) Records shall be maintained onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(6) Records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

   (i) Composite vapor pressure. The composite vapor pressure of organic compounds in cleaning unit operation industrial cleaning solvents shall be determined by one or more of the following procedures:

   (1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using one or more of the following methods:
      (i) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.
      (ii) Another test method demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department and the EPA.
(2) Calculating the composite vapor pressure using the following equation:

\[
P_{pc} = \frac{\sum_{i=1}^{n} (W_i \cdot VP_i)/Mw_i}{W_w/Mw_w + \sum_{e=1}^{k} W_e/Mw_e + \sum_{i=1}^{n} W_i/Mw_i}
\]

Where:
- \(P_{pc}\) = VOC composite partial 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, 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 (j).

(3) Providing documentation from the manufacturer of the industrial cleaning solvent that indicates the composite vapor pressure. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(j) Vapor pressure of single component compound. The vapor pressure of each single component compound in a cleaning unit operation industrial cleaning solvent shall be determined from one or more of the following:

(1) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.
(2) The most recent edition of one or more of the following sources:
   (iii) *CRC Handbook of Chemistry and Physics*, CRC Press.
(3) Documentation provided by the manufacturer of the single component compound that indicates the vapor pressure of the single component compound. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(k) ASTM method references. References to ASTM methods in this section pertain to test methods developed by ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, Pennsylvania 19428-2959, www.astm.org.

Authority
The provisions of this § 129.63a issued under sections 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source
The provisions of this § 129.63a adopted August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814.

Cross References
This section cited in 25 Pa. Code § 129.51 (relating to general); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.64. Cutback asphalt paving.
(a) After April 30, 1982, no person may permit the use or application of cutback asphalt for paving operations except when any of the following applies:
   (1) Long-life stockpile is necessary.
   (2) The use or application between October 31 and April 30, is necessary.
   (3) The cutback asphalt is used solely as a tack coat, a penetrating prime coat, a dust palliative or precoating of aggregate.
   (4) Skin patching is necessary during October. Skin patching shall be less than 500 feet continuous length, 1300 linear feet per mile or 1750 square yards per lane mile.
(b) After April 30, 1982, emulsion asphalts may not contain more than the maximum percentage of solvent as shown in Table 2.

<table>
<thead>
<tr>
<th>Emulsion Grade</th>
<th>Type</th>
<th>% Solvent, Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1</td>
<td>Rapid Setting</td>
<td>0</td>
</tr>
<tr>
<td>E-2</td>
<td>Rapid Setting (Anionic)</td>
<td>0</td>
</tr>
<tr>
<td>E-3</td>
<td>Rapid Setting (Cationic)</td>
<td>3</td>
</tr>
<tr>
<td>E-4</td>
<td>Medium Setting</td>
<td>12</td>
</tr>
<tr>
<td>E-5</td>
<td>Medium Setting</td>
<td>12</td>
</tr>
<tr>
<td>E-6</td>
<td>Slow Setting (Soft Residue)</td>
<td>0</td>
</tr>
<tr>
<td>E-8</td>
<td>Slow Setting (Hard Residue)</td>
<td>0</td>
</tr>
<tr>
<td>E-10</td>
<td>Medium Setting (High Float)</td>
<td>7</td>
</tr>
<tr>
<td>E-11</td>
<td>High Float</td>
<td>7</td>
</tr>
<tr>
<td>E-12</td>
<td>Medium Setting (Cationic)</td>
<td>8</td>
</tr>
</tbody>
</table>

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(393472) No. 528 Nov. 18 Copyright © 2018 Commonwealth of Pennsylvania
Authority

The provisions of this § 129.64 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.65. Ethylene production plants.

No person may permit the emission into the outdoor atmosphere of a waste gas stream from an ethylene production plant or facility unless the gas stream is properly burned at no less than 1,300°F for at least .3 seconds; except that no person may permit the emission of volatile organic compounds in gaseous form into the outdoor atmosphere from a vapor blowdown system unless these gases are burned by smokeless flares.

Source

The provisions of this § 129.65 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534.

Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.66. Compliance schedules and final compliance dates.

The owner or operator of a source newly subject to the requirements of §§ 129.52—129.52c, §§ 129.59—129.61 or §§ 129.67—129.69 as a result of revised applicability requirements of this title relating to the control of VOC shall achieve compliance with the applicable emission limitations within 1 year of the date of publication of the notice of final adoption of this requirement in the Pennsylvania Bulletin. Newly subject sources or facilities are those which were not subject to the emission limitations because they emitted less than the cutoff levels or operated at de minimis production levels prior to the date of publication of the limitation in the Pennsylvania Bulletin, but are now subject to the standard because they meet or exceed the cutoff levels contained in § 129.52(a), § 129.52(a), § 129.52(b), § 129.52(c) or § 129.69. The date of adoption of the applicable emission standard for these previously unregulated sources will be

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determined to be the date that the applicable cutoff levels contained in § 129.52, § 129.52a, § 129.52b, § 129.52c or § 129.69 are published in the Pennsylvania Bulletin.

Authority

The provisions of this § 129.66 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.67. Graphic arts systems.

(a) This section applies 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, § 129.52a, § 129.52b, § 129.52c or § 129.69a (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(1)(i) if the owner or operator was required to install a control device under this section prior to June 28, 2014.

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

(b) A person may not permit the emission into the outdoor atmosphere of VOCs from a rotogravure or flexographic printing press subject to this section unless one of the following limitations is met:

(1) The volatile fraction of the ink, as applied to the substrate, contains 25% or less by volume of VOC and 75% or more by volume of water.
(2) The ink, as applied to the substrate, less water, contains 60% by volume or more of solid material.

(3) The owner or operator installs and operates a carbon adsorption system, an incineration system or an alternative VOC emission reduction system which recovers or destroys at least 90% of the VOCs entering the system. The overall level of emission recovery or destruction may not be less than that necessary to comply with subsection (c).

(c) A capture system shall be used in conjunction with the emission control systems in subsection (b)(3). The design and operation of the capture and control system shall be consistent with good engineering practice and shall be designed to provide for a contemporaneous, overall reduction in VOC emission from each ink/press of at least the following:

1. Seventy-five percent where a publication rotogravure process is employed.
2. Sixty-five percent where another rotogravure process is employed.
3. Sixty percent where a flexographic printing process is employed.

(d) Presses used only to check the quality of the image formation of newly etched or engraved printing cylinders are exempted from this section if the aggregate emissions from the presses do not exceed 400 pounds in a 30-day running period.

(e) To determine applicability under this section, emissions of VOCs used in clean-up operations shall be summed with emissions from surface coating and printing.

**Authority**

The provisions of this § 129.67 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015); amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**


**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

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

(a) Applicability.

(1) Except as specified in paragraph (3) or (4), this section applies to the owner and operator of a flexible packaging printing press if one or 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 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)(ii) and § 129.67, who was required to install a control device under § 129.67 prior to June 28, 2014, 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) 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, 2015, under §§ 129.91—129.95 (relating to stationary sources of NOx 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, 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 meets the following requirements:

   (i) The VOC content is equal to or less than one or both of the following limits:

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

   (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:

   \[
   \text{VOC}_B = \frac{(W_o)}{(W_n)}
   \]

   Where:

   \( W_o \) = 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:

   \[
   VOC_w = \frac{\sum_{i=1}^{n} C_i V_i}{V_t}
   \]

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Where:
\( \text{VOC}_w \) = 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 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 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 \( \geq 25 \text{ tpy of VOC} \) Before Control**

<table>
<thead>
<tr>
<th>Control System</th>
<th>Overall Control Efficiency Requirement</th>
<th>Printing Press First Installation Date</th>
<th>Air Pollution Control Device First Installation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prior to March 14, 1995* On or after March 14, 1995*</td>
<td>Prior to January 1, 2015** On or after January 1, 2015**</td>
</tr>
<tr>
<td>( \geq 65% )</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>( \geq 70% )</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>( \geq 75% )</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>( \geq 80% )</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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, 2015, is the compliance date of the flexible packaging printing press regulation.

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(4) **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, 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.** The owner or operator of a flexible packaging printing press subject to 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 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:

   (i) Noncatalytic thermal oxidizer, the minimum combustion or operating temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (e)(1) at least once every 15 minutes while the noncatalytic thermal oxidizer is operating.

   (ii) Catalytic thermal oxidizer:

      (A) The inlet gas temperature must be continuously monitored. The temperature reading shall 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 shall 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 shall be recorded in accordance with subsection (e)(1) at least once every 15 minutes while the control device is operating.

(2) The add-on air pollution control device specified in paragraph (1) shall 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) shall be in operation at all times that the source is operating.

(4) 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.

(e) **Recordkeeping and reporting requirements.** Beginning 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. 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 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.
(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 (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)—(4) shall be maintained 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 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 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 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 under Subpart C, Article III (relating to air resources) or a plan approval, operating permit or an order issued
by the Department. For purposes of this clause, fundamental changes include 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 (relating to 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 Non-methane Organic Emissions as Carbon, codified 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, codified 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, codified 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 activities.**

(1) Except as specified in paragraph (3), beginning January 1, 2015, the owner or operator of a flexible packaging printing press subject to subsection (a)(1)(i), (1)(ii) or (2) shall comply with the following work practices for cleaning activities at the facility:

(i) Store all VOC-containing cleaning solutions, waste cleaning solutions and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning solutions, waste cleaning solutions and used shop towels are kept closed at all times, except when depositing or removing these solutions or shop towels.

(iii) Minimize spills of VOC-containing cleaning solutions and waste cleaning solutions and clean up spills immediately.

(iv) Convey VOC-containing cleaning solutions, waste cleaning 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 (for example, platemaking) operations.

(iii) Cleaning in post-press (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).

**Authority**

The provisions of this § 129.67a issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**


**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.67 (relating to graphic arts systems); and 25 Pa. Code § 129.96 (relating to applicability).
§ 129.67b. Control of VOC emissions from offset lithographic printing presses and letterpress printing presses.

(a) Applicability.

(1) Except as specified in paragraph (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. One or more letterpress printing 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 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. One or more offset lithographic printing presses if the total actual VOC emissions from all inks (including varnishes), coatings, 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 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 (l) to determine the amount of potential or actual VOC emissions that is available for capture and control from the inks
(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, 2015, under §§ 129.91—129.95 (relating to stationary sources of NOx 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, 2015, a person subject to subsection (a)(1)(i), (ii), (iii) or (iv) may not cause or permit the emission into the outdoor atmosphere of VOCs from cleaning solutions used in or on an offset lithographic printing press or a letterpress printing press unless the following conditions are met:

(i) The cleaning solutions used must 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 70% by weight.

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

(2) Fountain solutions. Except as specified in paragraph (3), beginning January 1, 2015, a person subject to subsection (a)(1)(i), (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.

(i) For each heatset web offset lithographic printing press, the press-ready (as applied) fountain solution must meet one of the following limits:

(A) A VOC content of 1.6% or less by weight.

(B) A VOC content of 3% or less by weight if the fountain solution is refrigerated below 60°F (15.5°C).

(C) A VOC content of 5% or less by weight and no alcohol in the fountain solution.
(D) 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 must meet one of the following limits:
   
   (A) A VOC content of 5% or less by weight.
   
   (B) A VOC content of 8.5% or less by weight if the fountain solution is refrigerated below 60°F (15.5°C).
   
   (C) A VOC content of 5% or less by weight and no alcohol in the fountain solution.
   
   (D) 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 each non-heatset web offset lithographic printing press, the press-ready (as applied) fountain solution shall contain 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) 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 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 VOC control efficiency of an add-on air pollution control device for a heatset dryer, determined in accordance with subsection (h), must 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, 2015.
   
   (B) At least 95% for an add-on air pollution control device whose first installation date is on or after 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) The owner or operator of the printing press may request the Department’s approval for an alternative limitation if the following requirements are met:

(A) The request is submitted to the Department in writing.
(B) The request demonstrates 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 demonstrates the minimum outlet VOC concentration that the unit can achieve, not to exceed 20 ppm as hexane (40 ppm as propane) on a dry basis.

(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 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) Noncatalytic thermal oxidizer, the minimum combustion or operating temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (f)(1) at least once every 15 minutes while the noncatalytic thermal oxidizer is operating.

(B) Catalytic thermal oxidizer:

(I) The inlet gas temperature must be continuously monitored. The temperature reading shall 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 shall 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 shall be recorded in accordance with subsection (f)(1) at least once every 15 minutes while the control device is operating.

(ii) 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:

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.

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 components or additives used to prepare the press-ready fountain solution.

(A) The VOC content data for each of the concentrated components or additives shall be combined in the proportions in which the concentrated components or additives are mixed to make the batch of press-ready (as applied) fountain solution.

(B) The VOC content shall be calculated one time for each recipe of press-ready (as applied) fountain solution. The recipe name, VOC content for each concentrated component or additive and fountain solution mix ratio shall be recorded in a logbook.

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

Measurement of the recirculating reservoir temperature of a refrigerated press-ready (as applied) fountain solution specified in subsection (c)(2)(i)(B) or (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 below 60°F (15.5°C) at all times. The temperature on the thermometer or other temperature 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.

Monitoring of the press-ready (as applied) fountain solution for alcohol concentration or VOC content with one or more of the following instruments:

(A) A refractometer or a hydrometer to monitor the fountain solution alcohol concentration. The instrument must:

(I) Be corrected for temperature one time per 8-hour shift.
(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 conductivity meter to determine the fountain solution VOC content. Reading for the fountain solution must be referenced to the conductivity of the incoming water.
(vi) Another method to determine compliance with the VOC content limits for fountain solutions in subsection (c)(2) if 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.

(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 solutions in subsection (c)(1) by one or more of the following methods:


(ii) Use of the equation in subsection (j) to calculate the composite partial vapor pressure of the press-ready (as applied) cleaning solution.

(iii) Use of the methods in subsection (k) to determine the VOC composite partial vapor pressure of a single concentrated component or additive used to prepare the press-ready (as applied) cleaning solution.

(iv) Maintenance onsite of MSDS, CPDS or other data provided by the manufacturer of the press-ready (as applied) cleaning solution that indicates the VOC content or the VOC composite partial vapor pressure, or both, of the press-ready (as applied) cleaning solution.

(v) Calculation of the VOC content or the VOC composite partial vapor pressure, or both, of the press-ready (as applied) cleaning 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 components or additives used to prepare the press-ready (as applied) cleaning solution.

(A) The VOC content data or VOC composite partial vapor pressure data for each of the concentrated components or additives shall be combined in the proportions in which the concentrated components or additives are mixed to make the batch of press-ready (as applied) cleaning solution.

(B) The VOC content or VOC composite partial vapor pressure shall be calculated one time for each recipe of press-ready (as applied) cleaning 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 components or additives used to prepare the press-ready (as applied) cleaning solution...
solution may be performed or the VOC composite partial vapor pressure
data may be determined by the supplier of the components or additives and
these results provided to the owner or operator of the affected press.
(vi) Another method to determine compliance with the VOC content
limits for cleaning solutions in subsection (c)(1) if the following require-
ments 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 alterna-
tive method.
   (B) The request demonstrates that the alternative method provides
       results that accurately determine the cleaning solution VOC content or
       VOC composite partial vapor pressure.
   (C) The Department provides prior written approval of the alternative
       method.
(f) Recordkeeping requirements. Beginning 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. 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 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.
   (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 cleaning solution:
         (A) The name and identification number for the blanket, roller or other
cleaning solution.
         (B) The VOC content (weight %) or VOC composite partial vapor
pressure of each cleaning solution as applied.
         (C) The volume used of each cleaning solution as applied, if the owner
or operator is using cleaning solutions which exceed the limits in subsec-
tion (c)(1)(i).
         (D) Records of cleaning solution monitoring as required under subsec-
tion (e)(3).
      (ii) The following parameters for each press-ready (as applied) fountain
solution:
         (A) The VOC content (weight %).
(B) Records of fountain solution monitoring as required under subsection (e)(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.

(g) Reporting requirements. Beginning 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 onsite 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 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 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 previously approved by the Department.

(2) The control efficiency shall be determined 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.

(i) EPA Reference Method 25, Determination of Total Gaseous Nonmethane Organic Emissions as Carbon, codified 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.
(ii) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, codified 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.

(iii) EPA Reference Method 18, *Measurement of Gaseous Organic Compound Emissions by Gas Chromatography*, codified 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.

(i) Work practice requirements for cleaning activities.

(1) 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 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 solutions, waste cleaning solutions and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning solutions, waste cleaning solutions and used shop towels are kept closed at all times, except when depositing or removing these solutions or shop towels.

(iii) Minimize spills of VOC-containing cleaning solutions and waste cleaning solutions and clean up spills immediately.

(iv) Convey VOC-containing cleaning solutions, waste cleaning 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 (for example, platemaking) operations.
(iii) Cleaning in post-press (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 solutions shall be determined by one of the following procedures:

1. Quantifying the amount of each compound in the blend using gas chromatographic analysis, using 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:

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

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
- \(W_w\) = Weight of water, in grams
- \(W_e\) = Weight of the “e”th exempt compound, in grams
- \(MW_i\) = 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 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 solutions.** The vapor pressure of each single component compound shall be determined from one or more of the following:

1. 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:

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(l) **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).

**Authority**

The provisions of this § 129.67b issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**


**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.68. Manufacture of synthesized pharmaceutical products.

(a) This section applies to synthesized pharmaceutical manufacturing facilities.

(b) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall control the VOC emissions from reactors, distillation operations, crystallizers, centrifuges and vacuum dryers that emit 15 pounds per day or more of VOC. Surface condensers or equivalent controls shall be used if:

1. Surface condensers are used, the condenser outlet gas temperature may not exceed:
   
   (i) −25°C when condensing VOC of vapor pressure greater than 5.8 psi (40 kilopascals) when measured at 68°F.
   
   (ii) −15°C when condensing VOC of vapor pressure greater than 2.9 psi (20 kilopascals) when measured at 68°F.
   
   (iii) 0°C when condensing VOC of vapor pressure greater than 1.5 psi (10 kilopascals) when measured at 68°F.
   
   (iv) 10°C when condensing VOC of vapor pressure greater than 1 psi (7 kilopascals) when measured at 68°F.
   
   (v) 25°C when condensing VOC of vapor pressure greater than .5 psi (3.5 kilopascals) when measured at 68°F.

2. Equivalent controls are used, the VOC emissions shall be reduced by an equivalent or greater amount than would be required in paragraph (1).

(c) The owner or operator of a synthetic pharmaceutical manufacturing facility subject to this section shall reduce the VOC emissions from air dryers and production equipment exhaust systems:
§ 129.68. Synthesized pharmaceutical manufacturing.

(1) By at least 90% if emissions are 220 pounds per day (100 kilograms per day) or more of VOC.
(2) To 33 pounds per day or less if emissions are less than 220 pounds per day of VOC.
(d) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall enclose centrifuges, rotary vacuum filters and other filters having an exposed liquid surface, where the liquid contains VOC and exerts a total VOC vapor pressure of .5 psi (3.5 kilopascals) or more at 20°C.
(e) The owner or operator of a synthesized pharmaceutical facility subject to this section shall install covers on in-process tanks containing a VOC at any time. These covers shall remain closed, unless production, sampling, maintenance or inspection procedures require operator access.
(f) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall repair leaks from which a liquid, containing VOC, can be observed running or dripping. The repair shall be completed the first time the equipment is off-line for a period of time long enough to complete the repair.

Authority
The provisions of this § 129.68 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

Source

Cross References
This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.69. Manufacture of pneumatic rubber tires.

(a) This section applies to pneumatic rubber tire manufacturing facilities. For purposes of this section, pneumatic rubber tire manufacturing means the production of pneumatic rubber passenger-type tires on a mass production basis. Passenger-type tires are agricultural, airplane, industrial, mobile home, light- or medium-duty truck or passenger vehicle tires with bead diameters up to 20 inches (50.8 centimeters) and cross-sectional dimensions up to 12.8 inches (32.5 centimeters). With prior written approval from the Department, the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs and when produced on equipment separate from normal production lines for passenger-type tires are exempt from the requirements of this section.
(b) The owner or operator of an undertread cementing, tread-end cementing or bead dipping operation subject to this section shall comply with the following:

(1) Install and operate a capture system designed to achieve maximum reasonable capture, of at least 85% by weight of VOC emitted, from undertread cementing, tread-end cementing and bead dipping operations. Maximum reasonable capture shall be consistent with the following documents:

(2) Install and operate a control device that meets the requirements of one of the following:
   (i) A carbon adsorption system designed and operated in a manner so that there is at least a 95% removal of VOC by weight from the gases ducted to the control device.
   (ii) An incineration system that oxidizes at least 90% of the nonmethane VOCs which enter the incinerator to carbon dioxide and water.

(c) The owner or operator of a green-tire spraying operation subject to this section shall implement one of the following means of reducing VOC emissions:

(1) Substitute water-based sprays for the normal solvent-based mold release compound.

(2) Install a capture system designed and operated in a manner that will capture and transfer at least 90% of the VOC emitted by the green-tire spraying operation to a control device that meets the requirements in subsection (b)(2).

(d) Notwithstanding the provisions of this section, the Department may allow a pneumatic rubber tire manufacturing facility to implement permanent and enforceable measures, including recordkeeping and reporting requirements, which are approved by the Department and the EPA as reasonably available control technology.

**Authority**

The provisions of this § 129.69 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

**Source**

Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.70. [Reserved].

Source


Cross References

This section cited in 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs).

§ 129.71. Synthetic organic chemical and polymer manufacturing—fugitive sources.

(a) This section applies to surface active agent manufacturing facilities subject to § 129.72 (relating to manufacture of surface active agents) and to a facility with design capability to manufacture 1,000 tons per year or more of one or a combination of the following:

(1) Synthetic organic chemicals listed in 40 CFR 60.489 (relating to list of chemicals provided by affected facilities).
(2) Methyl tert-butyl ether.
(3) Polyethylene.
(4) Polypropylene.
(5) Polystyrene.

(b) Exempt from this section are systems operated entirely under a vacuum, or process fluids that contain less than 10% by weight of VOCs and systems in service handling compounds with vapor pressures less than 0.044 psia at 68° F.

(c) The owner or operator of a newly affected facility shall complete the following by May 24, 1993.

(1) Install a second valve, blind flange, plug, cap or other equivalent sealing system on open ended lines, except for safety pressure relief valves.
(2) Develop and initiate a leak detection program including liquid leaks for pumps, valves, compressors, vessels and safety pressure relief valves and a repair program for these components that cause a hydrocarbon detection instru-
The leak detection and repair program shall include the following:

(i) A leak check during every calendar quarter of the components, by methods referenced in § 139.14 (relating to emissions of VOCs).

(ii) Attachment of an identification tag to the leaking component causing an instrument reading equal to or greater than 10,000 ppm. The identification tag shall be waterproof, readily visible, bear an identification number, the date on which the leak was detected and indicate if the component cannot be repaired until a process shutdown that will not occur within 15 days from the date of detection.

(iii) Repair and retest of a leaking component within 15 days or as soon as possible if a shutdown is required to make the repair.

(iv) A weekly visual check of pumps in light liquid service for indications of leaks.

(v) Check, by methods referenced in § 139.14, a safety relief valve within 24 hours after it has vented to the atmosphere to assure that the safety relief valve has resealed.

(vi) The initiation and maintenance of a log of leaking components. The log shall contain, at a minimum, the total number of components checked, the total number of components found leaking, the location of the leaking component, the type of component—for example, valve, seal and the like—the tag identification number, the date on which the component was discovered to be leaking, date of repair, leak detection instrument reading after repairs, the components that cannot be repaired until a process shutdown that will not occur within 15 days from the date of detection and a record of the calibration of the leak detection monitoring instrument. The monitoring log shall be retained by the owner for 2 years after the date on which an entry was made. The log shall be made available to the Department upon oral or written request.

(d) The owner or operator of a facility subject to this section may submit to the Department an alternative plan for the control of leaks from components. If the Department finds that the alternative plan will achieve an emission reduction which is equivalent to or greater than the reduction which can be achieved under this section and that the alternative plan is as enforceable as this section, the Department may approve the alternative plan.

(e) The owner or operator of a facility subject to this section may submit to the Department a list of components the inspection of which would involve a significant element of danger. The Department may exempt the components on the list from the requirements of this section if the owner or operator can demonstrate to the satisfaction of the Department that a significant element of danger exists which cannot be reasonably eliminated, and that these exemptions will not result in a significant reduction of the VOC emission control effectiveness.
§ 129.72. Manufacture of surface active agents.

(a) This section applies to a facility which has surface active agent manufacturing sources with a potential to emit greater than 100 tons of VOCs per year.

(b) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from solvent wash tanks, reaction vessels, separators, distillation processes, solvent strippers and solvent storage tanks unless the emissions are exhausted through an emission reduction system which is designed and operated to recover or destroy at least 90% by weight of the VOC emissions exhausted to the emission reduction system.

Authority

The provisions of this § 129.72 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.73. Aerospace manufacturing and rework.

Except as provided in paragraph (1), this section applies to the manufacture or rework of commercial, civil or military aerospace vehicles or components at any facility which has the potential to emit 25 tons per year of VOCs or more.

(1) This section does not apply to cleaning and coating of aerospace components and vehicles as follows:
(i) At any source conducting research and development for the research and development activities.
(ii) For quality control and laboratory testing.
(iii) For production of electronic parts and assemblies (except for cleaning and coating of completed assemblies).
(iv) For rework operations performed on antique aerospace vehicles or components.

(2) Paragraph (3) does not apply to cleaning and coating of aerospace components and vehicles in the following circumstances:
   (i) The use of touchup, aerosol and Department of Defense “classified” coatings.
   (ii) The coating of space vehicles.
   (iii) At facilities that use separate formulations in volumes less than 50 gallons per year to a maximum exemption of 200 gallons per year of all the coatings in aggregate for these formulations.

(3) Beginning April 10, 1999, a person may not apply to aerospace vehicles or components, aerospace specialty coatings, primers, topcoats and chemical milling maskants including VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table II.
   (i) Aerospace coatings that meet the definitions of the specific coatings in Table II shall meet those allowable coating VOC limits.
   (ii) All other aerospace primers, aerospace topcoats and chemical milling maskants are subject to the general coating VOC limits for aerospace primers, aerospace topcoats and aerospace chemical milling maskants.

**TABLE II**

Allowable Content of VOCs in Aerospace Coatings

Weight of VOC Per Volume of Coating (Minus Water and Exempt Solvents)

<table>
<thead>
<tr>
<th>COATING TYPE</th>
<th>LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POUNDS PER GALLON</td>
</tr>
<tr>
<td>Specialty Coatings</td>
<td></td>
</tr>
<tr>
<td>(1) Ablative Coating</td>
<td>5.0</td>
</tr>
<tr>
<td>(2) Adhesion Promoter</td>
<td>7.4</td>
</tr>
<tr>
<td>(3) Adhesive Bonding Primers:</td>
<td></td>
</tr>
<tr>
<td>(a) Cured at 250°F or below</td>
<td>7.1</td>
</tr>
<tr>
<td>COATING TYPE</td>
<td>LIMIT</td>
</tr>
<tr>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>POUNDS PER GALLON</td>
</tr>
<tr>
<td>(b) Cured above 250°F</td>
<td>8.6</td>
</tr>
<tr>
<td>(4) Adhesives:</td>
<td></td>
</tr>
<tr>
<td>(a) Commercial Interior Adhesive</td>
<td>6.3</td>
</tr>
<tr>
<td>(b) Cyanoacrylate Adhesive</td>
<td>8.5</td>
</tr>
<tr>
<td>(c) Fuel Tank Adhesive</td>
<td>5.2</td>
</tr>
<tr>
<td>(d) Nonstructural Adhesive</td>
<td>3.0</td>
</tr>
<tr>
<td>(e) Rocket Motor Bonding Adhesive</td>
<td>7.4</td>
</tr>
<tr>
<td>(f) Rubber-Based Adhesive</td>
<td>7.1</td>
</tr>
<tr>
<td>(g) Structural Autoclavable Adhesive</td>
<td>0.5</td>
</tr>
<tr>
<td>(h) Structural Nonautoclavable Adhesive</td>
<td>7.1</td>
</tr>
<tr>
<td>(5) Antichafe Coating</td>
<td>5.5</td>
</tr>
<tr>
<td>(6) Chemical Agent-Resistant Coating</td>
<td>4.6</td>
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<tr>
<td>(7) Clear Coating</td>
<td>6.0</td>
</tr>
<tr>
<td>(8) Commercial Exterior Aerodynamic Structure Primer</td>
<td>5.4</td>
</tr>
<tr>
<td>(9) Compatible Substrate Primer</td>
<td>6.5</td>
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<tr>
<td>(10) Corrosion Prevention Compound</td>
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<tr>
<td>(11) Cryogenic Flexible Primer</td>
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<tr>
<td>(12) Cryoprotective Coating</td>
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<tr>
<td>(13) Electric or Radiation-Effect Coating</td>
<td>6.7</td>
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<tr>
<td>(14) Electrostatic Discharge and Electromagnetic Interference (EMI) Coating</td>
<td>6.7</td>
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<tr>
<td>(15) Elevated Temperature Skydrol Resistant Commercial Primer</td>
<td>6.2</td>
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<tr>
<td>(16) Epoxy Polyamide Topcoat</td>
<td>5.5</td>
</tr>
<tr>
<td>(17) Fire-Resistant (Interior) Coating</td>
<td>6.7</td>
</tr>
<tr>
<td>COATING TYPE</td>
<td>LIMIT</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>POUNDS PER GALLON</td>
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<tr>
<td>(18) Flexible Primer</td>
<td>5.4</td>
</tr>
<tr>
<td>(19) Flight-Test Coatings:</td>
<td></td>
</tr>
<tr>
<td>(a) Missile or Single Use Aircraft</td>
<td>3.5</td>
</tr>
<tr>
<td>(b) All Other</td>
<td>7.0</td>
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<tr>
<td>(20) Fuel-Tank Coating</td>
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<tr>
<td>(21) High-Temperature Coating</td>
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<td>(22) Insulation Covering</td>
<td>6.2</td>
</tr>
<tr>
<td>(23) Intermediate Release Coating</td>
<td>6.2</td>
</tr>
<tr>
<td>(24) Lacquer</td>
<td>6.9</td>
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<tr>
<td>(25) Maskants:</td>
<td></td>
</tr>
<tr>
<td>(a) Bonding Maskant</td>
<td>10.2</td>
</tr>
<tr>
<td>(b) Critical Use and Line Sealer Maskant</td>
<td>8.6</td>
</tr>
<tr>
<td>(c) Seal Coat Maskant</td>
<td>10.2</td>
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<tr>
<td>(26) Metallized Epoxy Coating</td>
<td>6.2</td>
</tr>
<tr>
<td>(27) Mold Release</td>
<td>6.5</td>
</tr>
<tr>
<td>(28) Optical Anti-Reflective Coating</td>
<td>6.2</td>
</tr>
<tr>
<td>(29) Part Marking Coating</td>
<td>7.1</td>
</tr>
<tr>
<td>(30) Pretreatment Coating</td>
<td>6.5</td>
</tr>
<tr>
<td>(31) Rain Erosion-Resistant Coating</td>
<td>7.1</td>
</tr>
<tr>
<td>(32) Rocket Motor Nozzle Coating</td>
<td>5.5</td>
</tr>
<tr>
<td>(33) Scale Inhibitor</td>
<td>7.3</td>
</tr>
<tr>
<td>(34) Screen Print Ink</td>
<td>7.0</td>
</tr>
<tr>
<td>(35) Sealants:</td>
<td></td>
</tr>
<tr>
<td>(a) Extrudable/Rollable/Brushable Sealant</td>
<td>2.0</td>
</tr>
<tr>
<td>(b) Sprayable Sealant</td>
<td>5.0</td>
</tr>
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</table>

(393477) No. 528 Nov. 18
<table>
<thead>
<tr>
<th>COATING TYPE</th>
<th>LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POUNDS PER GALLON</td>
</tr>
<tr>
<td>(36) Self-Priming Topcoat</td>
<td>3.5</td>
</tr>
<tr>
<td>(37) Silicone Insulation Material</td>
<td>7.1</td>
</tr>
<tr>
<td>(38) Solid Film Lubricant</td>
<td>7.3</td>
</tr>
<tr>
<td>(39) Specialized Function Coating</td>
<td>7.4</td>
</tr>
<tr>
<td>(40) Temporary Protective Coating</td>
<td>2.7</td>
</tr>
<tr>
<td>(41) Thermal Control Coating</td>
<td>6.7</td>
</tr>
<tr>
<td>(42) Wet Fastener Installation Coating</td>
<td>5.6</td>
</tr>
<tr>
<td>(43) Wing Coating</td>
<td>7.1</td>
</tr>
<tr>
<td>Aerospace Primers, Aerospace Topcoats and Aerospace Chemical Milling Maskants</td>
<td></td>
</tr>
<tr>
<td>(1) Primers</td>
<td>2.9</td>
</tr>
<tr>
<td>(2) Topcoats</td>
<td>3.5</td>
</tr>
<tr>
<td>(3) Chemical Milling Maskants (Type I/II)</td>
<td>1.3</td>
</tr>
</tbody>
</table>

(4) The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds shall be calculated for each coating by the following equation:

\[
VOC = \frac{(W_v - W_w - W_{ex})(D_c)}{100\% - (W_w)(D_c/D_w) - (W_{ex})(D_c/D_{ex})}
\]

Where:
VOC = VOC content in grams per liter (g/l) of each coating less water and exempt solvents,
W_v = Weight of total volatiles, % (100%−Weight % Nonvolatiles),
W_w = Weight of water, %,
W_{ex} = Weight of exempt solvent, %
D_c = Density of coating, g/l at 25°C,
D_w = Density of water, 0.997 × 10^3 g/l at 25°C, and
D_{ex} = Density of exempt solvent, g/l, at 25°C.

To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345 x 10^3 (lb/gal/g/l).
(5) Except as provided in paragraph (6), beginning April 10, 1999, a person shall use one or more of the following application techniques in applying primer or topcoat to aerospace vehicles or components:
   (i) Flow/curtain coat.
   (ii) Dip coat.
   (iii) Roll coating.
   (iv) Brush coating.
   (v) Cotton-tipped swab application.
   (vi) Electrodeposition (DIP) coating.
   (vii) High volume low pressure (HVLP) spraying.
   (viii) Electrostatic spray.

(6) The following situations are exempt from application equipment requirements listed in paragraph (5):
   (i) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly apply coatings to limited access spaces.
   (ii) The application of specialty coatings.
   (iii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in paragraph (5).
   (iv) The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) when the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in paragraph (5).
   (v) The use of airbrush application methods for stenciling, lettering and other identification markings.
   (vi) The use of hand-held spray can application methods.
   (vii) Touch-up and repair operations.

(7) Except as provided in paragraph (8), beginning April 10, 1999, a person may not use solvents for hand-wipe cleaning of aerospace vehicles or components unless the cleaning solvents do one of the following:
   (i) Meet the definition of “aqueous cleaning solvent” in § 121.1 (relating to definitions).
   (ii) Have a VOC composite vapor pressure less than or equal to 45 millimeters (mmHg) at 20°C.
   (iii) Is composed of a mixture of VOCs and has a maximum vapor pressure of 7 millimeters (mmHg) at 20°C (3.75 inches water at 68°F) and contains no hazardous air pollutants (HAP) or ozone depleting compounds.

(8) The following aerospace vehicle and component solvent cleaning operations are exempt from paragraph (7):

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(i) Cleaning during the manufacture, assembly, installation, maintenance or testing of components of breathing oxygen systems that are exposed to the breathing oxygen.

(ii) Cleaning during the manufacture, assembly, installation, maintenance or testing of parts, subassemblies or assemblies that are exposed to strong oxidizers or reducers (for example, nitrogen tetroxide, liquid oxygen, hydrazine).

(iii) Cleaning and surface activation prior to adhesive bonding.

(iv) Cleaning of electronics parts and assemblies containing electronics parts.

(v) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems.

(vi) Cleaning of fuel cells, fuel tanks and confined spaces.

(vii) Surface cleaning of solar cells, coated optics and thermal control surfaces.

(viii) Cleaning during fabrication, assembly, installation and maintenance of upholstery, curtains, carpet and other textile materials used in or on the interior of the aircraft.

(ix) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components.

(x) Cleaning of aircraft transparencies, polycarbonate or glass substrates.

(xi) Cleaning and solvent usage associated with research and development, quality control or laboratory testing.

(xii) Cleaning operations, using nonflammable liquids, conducted within 5 feet of any alternating current (AC) or direct current (DC) electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections.

(xiii) Cleaning operations identified in an essential use waiver under section 604(d)(1) of the Clean Air Act (42 U.S.C.A. § 7671c(d)(1)) or a fire suppression or explosion prevention waiver under section 604(g)(1) of the Clean Air Act which has been reviewed and approved by the EPA and the voting parties of the International Montreal Protocol Committee.

(9) Cleaning solvents, except for semiaqueous cleaning solvents, used in the flush cleaning of aerospace vehicles, components, parts, and assemblies and coating unit components, shall be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers which
comply with the housekeeping requirements of paragraph (11). Aqueous cleaning solvents are exempt from these requirements.

(10) Spray guns used to apply aerospace coatings shall be cleaned by one of the following:

(i) An enclosed spray gun cleaning system that is kept closed when not in use. Leaks, including visible leakage, misting and clouding, shall be repaired within 14 days from when the leak is first discovered. Each owner or operator using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month. The results of each inspection shall be recorded, and the record shall indicate the date of the inspection, the person who conducted the inspection and whether components were leaking. Records of the inspections shall be maintained for at least 2 years. Each inspection shall occur while the spray gun cleaner is in operation. If the leak is not repaired by the 15th day after detection, the solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(ii) Unatomized discharge of solvent into a waste container that is kept closed when not in use.

(iii) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.

(iv) Atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(11) The owner or operator of an affected facility shall implement the following housekeeping measures for cleaning solvents:

(i) Fresh and used cleaning solvents, except aqueous and semiaqueous cleaning solvents, used in solvent cleaning operations shall be stored in non-absorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying.

(ii) Cloth and paper, or other absorbent applicators, moistened with cleaning solvents, except aqueous cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers. Cotton-tipped swabs used for very small cleaning operations are exempt.

(iii) Handling and transfer procedures shall minimize spills during filling and transferring the cleaning solvent, except aqueous cleaning solvents, to or from enclosed systems, vats, waste containers and other cleaning operation equipment that holds or stores fresh or used cleaning solvents.

(12) The owner or operator of an affected facility may comply with this section by using approved air pollution control equipment provided that the following exist:

(i) The control system has combined VOC emissions capture and control equipment efficiency of at least 81% by weight.

(ii) The owner or operator received approval from the Department of a monitoring plan that specifies the applicable operating parameter value, or
range of values, to ensure ongoing compliance with this section. The monitoring device shall be installed, calibrated, operated and maintained in accordance with the manufacturer’s specifications, good air pollution control practices that minimize VOC emissions, and the Department’s approval.

(iii) The owner or operator shall record monitoring parameters as specified in the approved monitoring plan.

(13) The owner or operator of an affected facility shall maintain records in accordance with §§ 129.51 and 129.52 (relating to general; and surface coating processes) including:

(i) A current list of coatings in use categorized in accordance with Table II showing VOC content as applied and usage on an annual basis.

(ii) A current list of cleaning solvents used and annual usage for hand wiping solvents including the water content of aqueous and semiaqueous solvents and the vapor pressure and composite vapor pressure of all vapor pressure compliant solvents and solvent blends.

(iii) A current list and annual usage information for exempt hand-wipe cleaning solvents with a vapor pressure greater than 45 millimeters of mercury (mmHg) used in exempt hand-wipe cleaning operations.

Authority
The provisions of this § 129.73 issued under section 5(a)(1), (8) and (13) of the Air Pollution Control Act (35 P.S. § 4005(a)(1), (8) and (13).

Source

Cross References
This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); and 25 Pa. Code § 129.96 (relating to applicability).

§ 129.74. Control of VOC emissions from fiberglass boat manufacturing materials.

(a) Applicability.

(1) This section applies to the owner and operator of a facility that manufactures a hull or a deck of a boat or a related part from fiberglass, builds a mold or plug to make a fiberglass boat hull or deck or related part, or makes polyester resin putties for assembling fiberglass boat parts, when the total actual VOC emissions from fiberglass boat manufacturing operations identified in Table I are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons per 12-month rolling period, before consideration of controls. The total actual VOC emissions include the actual VOC emissions from the manufacture of hulls or decks from fiberglass, fiberglass boat parts (including small parts such as hatches, seats and lockers), molds or plugs for fiberglass hulls, decks or boat parts, resin and gel coat mixing operations, resin and gel coat application equipment and related cleaning activities at the facility.
This section does not apply to the owner and operator of a facility that manufactures boat trailers or parts of boats, such as hatches, seats and lockers, but does not manufacture hulls or decks of boats from fiberglass or build molds to make fiberglass boat hulls or decks.

### Table I: Compliant Monomer VOC Content Limit for Open Molding Resin and Gel Coat Materials

<table>
<thead>
<tr>
<th>Open Molding Resin or Gel Coat Material</th>
<th>Application Method</th>
<th>Individual Monomer VOC Content (weight percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Resin</td>
<td>Atomized Spray</td>
<td>28</td>
</tr>
<tr>
<td>Production Resin</td>
<td>Non-atomized</td>
<td>35</td>
</tr>
<tr>
<td>Pigmented Gel Coat</td>
<td>Any Method</td>
<td>33</td>
</tr>
<tr>
<td>Clear Gel Coat</td>
<td>Any Method</td>
<td>48</td>
</tr>
<tr>
<td>Tooling Resin</td>
<td>Atomized Spray</td>
<td>30</td>
</tr>
<tr>
<td>Tooling Resin</td>
<td>Non-atomized</td>
<td>39</td>
</tr>
<tr>
<td>Tooling Gel Coat</td>
<td>Any Method</td>
<td>40</td>
</tr>
</tbody>
</table>

(b) **Definitions.** The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

- **Application equipment cleaning**—The process of flushing or removing resin or gel coat material, or both, from the interior or exterior of equipment that is used to apply resins or gel coats in the manufacture of fiberglass parts.

- **Assembly adhesives**—A chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

- **Atomized application method**—
  (i) A resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part.
  (ii) The term includes resin spray guns and resin chopper spray guns.

- **Boat**—A vessel, other than a seaplane, that can be used for transportation on the water.

- **Clear gel coat**—
  (i) A polyester resin material that is clear or translucent so that underlying colors are visible. These materials are used to manufacture parts for sale.
  (ii) The term does not include tooling gel coats used to build or repair molds.
Closed molding—
(i) A process in which pressure is used to distribute resin through the reinforcing fabric placed between two mold surfaces to either saturate the
fabric or fill the mold cavity. The pressure may be clamping pressure, fluid pressure, atmospheric pressure or vacuum pressure used either alone or in combination. The mold surfaces may be rigid or flexible.

(ii) The term includes compression molding with sheet molding compound, infusion molding, resin injection molding, vacuum assisted resin transfer molding, resin transfer molding and vacuum assisted compression molding.

(iii) The term does not include:

(A) A process in which a closed mold is used only to compact saturated fabric or remove air or excess resin from the fabric, such as in vacuum bagging.

(B) Open molding steps, such as application of a gel coat or skin coat layer by conventional open molding.

Cured resin—A thermosetting plastic material containing styrene or methyl methacrylate or gel coat that has changed irreversibly from a liquid to a solid.

Fiberglass—A material consisting of glass fibers made in the form of cloth, mat or roving.

Fiberglass boat—A vessel in which either the hull or deck, or both, is built from a composite material consisting of a thermosetting resin matrix reinforced with fibers of glass, carbon, aramid or other material.

Filled resin—A thermosetting plastic material to which an inert material has been added to change viscosity, density, shrinkage or other physical properties, particularly for building molds.

Flowcoater—A non-atomizing application method of applying resins and gel coats to an open mold with a fluid nozzle in a fan pattern with no air supplied to the nozzle.

Gel coat—

(i) A clear or pigmented polyester resin material that does not contain reinforcing fibers and becomes the outer or inner surface of a finished boat product or mold.

(ii) The term includes a clear or pigmented polyester resin mixed with metal flakes.

Glass cloth—A fabric made of woven yarns of glass fibers.

Glass mat—A prepared material consisting of short glass fibers that are fixed to each other in a random pattern by a chemical binder or are mechanically stitched to a lightweight fabric.

Glass roving—A bundle of continuous glass fibers that is fed from a spool to a specialized gun that chops the bundle into short fibers, mixes the fibers with catalyzed resin and deposits the mixture on the mold surface in a random pattern.

Mixing—An operation in which resin or gel coat, including the mixing of putties or polyester resin putties, is combined with additives that include fillers, promoters or catalysts.
Mold—
   (i) The cavity or surface into or on which gel coat, resin and fibers are placed and from which finished fiberglass parts take their form.
   (ii) The term is also known as a tool.

*Monomer VOC*—A VOC that partially combines with itself or other similar compounds by a cross-linking reaction to become a part of the cured resin.

*Monomer VOC content*—The weight of the monomer divided by the weight of the polymer.

*Non-atomized application method*—
   (i) A resin application technology in which the resin is not broken into droplets or into an aerosol as the resin travels from the application equipment to the surface of the part.
   (ii) The term includes flowcoaters, chopper flowcoaters, pressure-fed resin rollers, resin impregnators and hand application (for example, paint brush or paint roller).

*Open molding*—
   (i) A process in which the reinforcing fibers and resin are placed in the mold and are open to the surrounding air while the reinforcing fibers are saturated with resin.
   (ii) The term includes:
      (A) An operation in which a vacuum bag or similar cover is used to compress an uncured laminate to remove air bubbles or excess resin or to achieve a bond between a core material and a laminate.
      (B) Application of a gel coat or skin coat layer prior to a closed molding process.
      (C) A process in which a closed mold is used only to compact saturated fabric or to remove air or excess resin from the fabric (such as in vacuum bagging).

*Pigmented gel coat*—
   (i) An opaque polyester resin material used to manufacture parts for sale.
   (ii) The term does not include tooling gel coats used to build or repair molds.

*Plug*—
   (i) A full-size model of the part to be manufactured. The mold is built over the finished model.
   (ii) The term is also known as a prototype.

*Polyester resin material*—An unsaturated thermosetting plastic material, such as an isophthalic, orthophthalic, halogenated, bisphenol A, vinylester or furan resin, a cross-linking agent, a catalyst, a gel coat, an inhibitor, an accelerator, a promoter or other material containing VOC used in polyester resin operations.

*Polyester resin operation*—A process in which an unsaturated polyester resin material is used to fabricate, rework, repair or touch-up a product for commer-
cial, military or industrial use by mixing, pouring, hand laying-up, impregnating, injecting, forming, winding, spraying or curing.

**Polyputty or putty**—A polyester or vinylester resin mixed with inert fillers or fibers. The mixture is used to assemble fiberglass parts and to fill gaps between parts. The applied material becomes part of the composite structure. These materials are not considered industrial adhesives.

**Production resin**—
(i) A thermosetting plastic material used to manufacture parts for sale.
(ii) The term does not include tooling resins used to build or repair molds and assembly adhesives.

**Repair**—The addition of polyester resin material to a portion of a previously fabricated product to mend damage.

**Resin**—A thermosetting plastic material containing styrene or methyl methacrylate, with or without pigment, used to encapsulate and bind together reinforcement fibers in the construction of fiberglass parts.

**Resin impregnator**—A mechanical non-atomizing composite material application method in which fiber reinforcement is saturated with one or more resins in a controlled ratio for each specific composite product.

**Roll-out**—The process of using rollers, squeegees or similar tools to compact reinforcing materials saturated with resin to remove trapped air or excess resin.

**Skin coat**—A layer of resin and fibers applied over the gel coat to protect the gel coat from being deformed by the next laminate layer.

**Tooling gel coat**—A polyester resin material containing styrene or methyl methacrylate, or both, that becomes the interior surface of a mold, supported by resin and fiberglass, or the exterior surface of a plug used to create a mold or is used to repair a mold.

**Tooling resin**—A thermosetting plastic material, hardened by a catalyst, used to construct or repair a mold or a plug for the manufacture of a fiberglass boat hull, deck or other part.

**Touch-up**—The application of material to cover minor imperfections.

**Vacuum bagging**—
(i) A molding technique in which the reinforcing fabric is saturated with resin, covered with a flexible sheet that is sealed to the edge of the mold and a vacuum is applied under the sheet to compress the laminate, remove excess resin or remove trapped air from the laminate during curing.
(ii) The term does not include a process that meets the definition of “closed molding.”

**Vacuum bagging with roll-out**—A partially closed molding technology that rolls the resin and fabric before the application of vacuum bagging materials.

**Vacuum bagging without roll-out**—A partially closed molding technology that applies vacuum bagging materials to the mold immediately after resin application without rolling the resin and fabric.
Vinylester resin—A thermosetting plastic material containing one or more esters of acrylic or methacrylic acids and having double-bond and ester linkage sites only at the ends of the resin molecules.

(c) Exceptions. The requirements of this section do not apply to the following circumstances:

1. A resin application process in a closed molding operation as defined in subsection (b).
2. A surface coating applied to a fiberglass boat.
3. A surface coating for a fiberglass and metal recreational boat.
4. An industrial adhesive used in the assembly of a fiberglass boat. Industrial adhesives used in fiberglass boat assembly are 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).

(d) Existing RACT permit. The requirements of this section supersede the requirements of a RACT permit issued to the owner and operator of a source subject to subsection (a) prior to December 19, 2015, under §§ 129.91—129.95 (relating to stationary sources of NOx and VOCs) to control, reduce or minimize VOCs from a fiberglass boat manufacturing process, except to the extent the RACT permit contains more stringent requirements.

(e) Compliance deadline. The owner and operator of a facility subject to this section shall comply with the applicable requirements beginning December 19, 2015.

(f) Emission limits. Except as specified in subsection (h) or (j), the owner and operator of a facility subject to this section may not cause or permit the emission into the outdoor atmosphere of monomer VOCs from an open molding resin or gel coat fiberglass boat manufacturing operation, a resin or gel coat mixing operation, or a resin or gel coat application equipment cleaning operation unless one or more of the following limitations is met:

1. Compliant materials option. The individual monomer VOC content limit is achieved through the use of low-monomer VOC content open molding resin and gel coat materials by one or more of the following methods:

   (i) Using only low-monomer VOC content resin and gel coat materials within a covered operation listed in Table I.
   
      (A) The monomer VOC content of each resin or gel coat material is equal to or less than the limit specified in Table I.
   
      (B) The monomer VOC content of each resin or gel coat material includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.
   
   (ii) Averaging the monomer VOC contents for the open molding resin and gel coat materials used within a covered operation listed in Table I on a weight-adjusted basis.

      (A) The combined total monomer VOC content of resin or gel coat materials of a certain type must meet the applicable monomer VOC content limit for a specific application method on a 12-month rolling weighted-average basis, calculated using the equation in clause (C).
(B) The monomer VOC content of each resin or gel coat material included in the weighted average specified in clause (A) includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.

(C) The weighted-average monomer VOC content on a 12-month rolling-average basis shall be calculated as follows:

\[
\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^{n} (M_i \cdot \text{VOC}_i)}{\sum_{i=1}^{n} M_i}
\]

Where:
- \(M_i\) = Mass of open molding resin or gel coat \(i\) used in the past 12 months in an operation, in megagrams.
- \(\text{VOC}_i\) = Monomer VOC content, by weight percent, of open molding resin or gel coat \(i\) used in the past 12 months in an operation.
- \(n\) = Number of different open molding resins or gel coats used in the past 12 months in an operation.

(2) Emissions averaging option. The numerical monomer VOC emission rate limit is achieved through averaging emissions among different open molding resin and gel coat operations. The equations in subparagraphs (iii)–(v) shall be used to estimate the monomer VOC emission rates from each operation included in the emissions averaging option based on the material and application method.

(i) The monomer VOC content of each open molding resin or gel coat material included in the emissions averaging option includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.

(ii) The 12-month rolling emissions average shall be determined at the end of each calendar month.

(iii) The facility-specific monomer VOC mass emission limit on a 12-month rolling-average basis shall be calculated as follows:

\[
\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})
\]

Where:
- \(M_R\) = Mass of production resin used in the past 12 months, excluding exempt VOC materials, in megagrams.
- \(M_{PG}\) = Mass of pigmented gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.
- \(M_{CG}\) = Mass of clear gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.
\( M_{TR} \) = Mass of tooling resin used in the past 12 months, excluding exempt VOC materials, in megagrams.

\( M_{TG} \) = Mass of tooling gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.

Numerical coefficients = The allowable monomer VOC emission rate for that particular material, in units of kg/Mg of material used.

(iv) At the end of the first 12-month rolling-average emissions period and at the end of each subsequent calendar month, the owner or operator of the facility shall demonstrate that the monomer VOC emissions from the operations and materials included in the emissions averaging option do not exceed the emission limit calculated under subparagraph (iii) for the same 12-month period as follows:

\[
\text{Monomer VOC emissions} = (P_{VR})(M_R) + (P_{PV})(M_{PG}) + (P_{CG})(M_{CG}) + (P_{TR})(M_{TR}) + (P_{TG})(M_{TG})
\]

Where:

Monomer VOC emissions = Monomer VOC emissions calculated using the monomer VOC emission equation for each operation included in the emissions averaging program, in kilograms.

\( P_{VR} \) = Weighted-average monomer VOC emission rate for production resin used in the past 12 months, in kilograms per megagram.

\( M_R \) = Mass of production resin used in the past 12 months, in megagrams.

\( P_{PV} \) = Weighted-average monomer VOC emission rate for pigmented gel coat used in the past 12 months, in kilograms per megagram.

\( M_{PG} \) = Mass of pigmented gel coat used in the past 12 months, in megagrams.

\( P_{CG} \) = Weighted-average monomer VOC emission rate for clear gel coat used in the past 12 months, in kilograms per megagram.

\( M_{CG} \) = Mass of clear gel coat used in the past 12 months, in megagrams.

\( P_{TR} \) = Weighted-average monomer VOC emission rate for tooling resin used in the past 12 months, in kilograms per megagram.

\( M_{TR} \) = Mass of tooling resin used in the past 12 months, in megagrams.

\( P_{TG} \) = Weighted-average monomer VOC emission rate for tooling gel coat used in the past 12 months, in kilograms per megagram.

\( M_{TG} \) = Mass of tooling gel coat used in the past 12 months, in megagrams.

(v) For purposes of subparagraph (iv), the owner or operator of the facility shall determine the weighted-average monomer VOC emission rate for the previous 12 months for each open molding resin and gel coat operation included in the emissions averaging option as follows:

\[
P_{OP} = \frac{\sum_{i=1}^{n} (M_i P_{Vi})}{\sum_{i=1}^{n} M_i}
\]

Where:

\( P_{OP} \) = Weighted-average monomer VOC emission rate for open molding resin and gel coat operations included in the emissions averaging option, in kilograms per megagram.
$PV_{OP} = \text{Weighted-average monomer VOC emission rate for each open molding operation (} PV_{R}, PV_{PG}, PV_{CG}, PV_{TR}, PV_{TG} \text{) included in the emissions averaging program, in kilograms of monomer VOC per megagram of material applied.}$

$M_i = \text{Mass of resin or gel coat used within an operation in the past 12 months, in megagrams.}$

$n = \text{Number of different open molding resins and gel coats used within an operation within the past 12 months.}$

$PV_i = \text{The monomer VOC emission rate for resin or gel coat used within an operation in the past 12 months, in kilograms of monomer VOC per megagram of material applied. } PV_i \text{ shall be calculated using the applicable emission rate formula specified in Table II.}$

**Table II: Monomer VOC Emission Rate Formulas for Open Molding Resin and Gel Coat Materials**

<table>
<thead>
<tr>
<th>Open Molding Resin or Gel Coat Material</th>
<th>Application Method</th>
<th>Emission Rate Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Atomized</td>
<td>$0.014 \times (\text{Resin VOC%})^{2.425}$</td>
</tr>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Atomized, plus vacuum bagging with roll-out</td>
<td>$0.01185 \times (\text{Resin VOC%})^{2.425}$</td>
</tr>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Atomized, plus vacuum bagging without roll-out</td>
<td>$0.00945 \times (\text{Resin VOC%})^{2.425}$</td>
</tr>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Non-atomized</td>
<td>$0.014 \times (\text{Resin VOC%})^{2.275}$</td>
</tr>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Non-atomized, plus vacuum bagging with roll-out</td>
<td>$0.0110 \times (\text{Resin VOC%})^{2.275}$</td>
</tr>
<tr>
<td>Production Resin, Tooling Resin</td>
<td>Non-atomized, plus vacuum bagging without roll-out</td>
<td>$0.0076 \times (\text{Resin VOC%})^{2.275}$</td>
</tr>
<tr>
<td>Pigmented Gel Coat</td>
<td>All methods</td>
<td>$0.445 \times (\text{Resin VOC%})^{1.675}$</td>
</tr>
<tr>
<td>Clear Gel Coat</td>
<td>All methods</td>
<td>$0.445 \times (\text{Resin VOC%})^{1.675}$</td>
</tr>
<tr>
<td>Tooling Gel Coat</td>
<td>All methods</td>
<td>$0.445 \times (\text{Resin VOC%})^{1.675}$</td>
</tr>
</tbody>
</table>

(3) **VOC emissions capture system and add-on air pollution control device option.** A numerical monomer VOC emission rate, determined for a facility
based on the mix of application methods and materials used at the facility, is achieved through the use of a VOC emissions capture system and add-on air pollution control device.

(i) The equation in paragraph (2)(iii) must be used to determine the emission limit to be achieved by the add-on air pollution control device, but modified as specified in this subparagraph. The mass of each open molding monomer VOC-containing material used during the control device performance test must be used in the equation in paragraph (2)(iii), instead of the mass of each material used over the past 12 months, to determine the emission limit, in kilograms of monomer VOC, that is applicable during the control device test.

(ii) The measured emissions at the outlet of the control device, in kilograms of monomer VOC, must be less than the emission limit calculated as specified in subparagraph (i).

(iii) The relevant control device and emission capture system operating parameters must be monitored and recorded during the test.

(iv) The values of the parameters recorded in subparagraph (iii) must be used to establish the operating limits for those parameters.

(v) The operating parameters must be maintained within the established operating limits.

(g) VOC emissions capture system and add-on air pollution control device requirements. The owner or operator of a facility subject to this section may elect to comply with the applicable emission limitations of this section through the installation of a VOC emissions capture system and add-on air pollution control device in accordance with subsection (f)(3). The owner or operator shall submit an application for a plan approval to the appropriate regional office. The application for a plan approval must be approved, in writing, by the Department prior to installation and operation of the emissions capture system and add-on air pollution control device. The application for a plan approval must include the following information:

(1) A description, including location, of each affected source or operation to be controlled with the emissions capture system and add-on air pollution control device.

(2) A description of the proposed emissions capture system and add-on air pollution control device to be installed.

(3) A description of the proposed compliance monitoring equipment to be installed.

(4) A description of the parameters to be monitored to demonstrate continuing compliance.

(5) A description of the records to be kept that will document the continuing compliance.

(6) A schedule containing proposed interim dates for completing each phase of the required work to install and test the emissions capture system and add-on air pollution control device described in paragraph (2) and the compliance monitoring equipment described in paragraph (3).
(7) A proposed interim emission limitation that will be imposed on the affected source or operation until compliance is achieved with the applicable emission limitation.

(8) A proposed final compliance date that is as soon as possible but not later than 1 year after the start of installation of the approved emissions capture system and add-on air pollution control device and the compliance monitoring equipment.

(h) **Emission limits for filled production resins and filled tooling resins.** The owner or operator may use an open molding filled production resin or filled tooling resin in each of the emission limit options specified in subsection (f).

(1) If fillers are added to the resin material, the adjusted monomer VOC emission rate of the filled material must be calculated on an as applied basis as follows:

\[ PV_F = PV_U \times \frac{100 - \% \text{ Filler}}{100} \]

Where:
- \( PV_F \) = The as-applied monomer VOC emission rate for the filled production resin or tooling resin, in kilograms per megagram of filled material.
- \( PV_U \) = The monomer VOC emission rate for the neat (unfilled) resin, before filler is added, calculated using the applicable emission rate formula in Table II.
- \% Filler = The weight-percent of filler in the as applied resin system.

(2) The value of \( PV_F \) of a compliant material used in subsection (f)(1), calculated as specified in paragraph (1), for a filled resin used as a:

(i) Production resin shall not exceed 46 kilograms of monomer VOC per megagram of filled resin applied.

(ii) Tooling resin shall not exceed 54 kilograms of monomer VOC per megagram of filled resin applied.

(3) The value of \( PV_F \), calculated as specified in paragraph (1), must be used in place of the value of \( PV_i \) for a filled resin included in the emissions averaging option equation in subsection (f)(2)(v).

(4) The monomer VOC content of each as applied filled resin includes the amount of non-monomer VOC content that exceeds 5% by weight of the unfilled resin material.

(i) **Monomer VOC control requirement for an open molding resin, gel coat, filled production resin or filled tooling resin not included in an emissions averaging option.** The monomer VOC content of an open molding resin, gel coat, filled production resin or filled tooling resin material not included in an emissions averaging option in subsection (f)(2) shall meet the monomer VOC content requirements of subsection (f)(1) or the add-on air pollution control requirements of subsection (f)(3).

(j) **Alternative requirements for control of monomer VOC content for certain resin and gel coat materials.** The monomer VOC content limits in Table I do not apply to a tooling or production material used for the following purposes:

(1) A production resin, including a skin coat resin, that must meet a specification for use in a military vessel or must be approved by the United States Coast Guard for use in the construction of a lifeboat, rescue boat or life-saving
appliance approved under 46 CFR Chapter 1, Subchapter Q (relating to equipment, construction, and materials: specifications and approval) or the construction of a small passenger vessel regulated under 46 CFR Chapter 1, Subchapter T (relating to small passenger vessels (under 100 gross tons)). A production resin that meets one or more of these criteria shall be applied with non-atomizing resin application equipment.

(2) A production or tooling resin or a pigmented, clear or tooling gel coat used for repair and touch up of a part or a mold, if the weight used of resin and gel coat materials that meet one or more of these criteria does not exceed 1% by weight of the total resin and gel coat material used at a facility on a 12-month rolling-average basis.

(3) Pure 100% vinylester resin used for a skin coat, if the pure 100% vinylester resin used for the skin coat is applied with non-atomizing resin application equipment, and the weight used of resin materials meeting this criterion does not exceed 5% by weight of the total resin used at a facility on a 12-month rolling-average basis.

(k) Work practices for resin and gel coat materials. The owner or operator of a facility subject to this section shall ensure that resin and gel coat containers with a capacity equal to or greater than 55 gallons (208 liters), including those used for onsite mixing of putties and polyputties, have a cover in place at all times with no visible gaps, except when materials are being manually added or removed from a container or when mixing equipment is being placed in or removed from a container.

(l) VOC content limits and work practices for cleaning materials. The owner or operator of a facility subject to this section shall comply with the following VOC content limits and work practices for VOC-containing cleaning materials:

(1) Ensure that the VOC content of cleaning solvents used for routine application equipment cleaning is equal to or less than 5% by weight or has a composite vapor pressure equal to or less than 0.50 mmHg at 68°F.

(2) Use only non-VOC-containing solvent to remove cured resin or gel coat from application equipment.

(m) Compliance and monitoring requirements. The owner or operator of a facility subject to this section shall:

(1) Use the test methods and procedures in subsection (n) to determine the monomer VOC content of resin and gel coat material.

(2) Demonstrate compliance of the monomer VOC content of the resin and gel coat material within 90 days of receipt of a written request from the Department in accordance with subsection (n).

(3) Equip add-on air pollution control devices with the applicable monitoring equipment. The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer’s specifications at all times that the add-on air pollution control device is in use.

(4) Conduct testing of a VOC emissions capture system and add-on air pollution control device installed in accordance with subsection (f)(3) one time every 5 years starting from completion of the initial testing specified in the plan approval application required in subsection (g).
(n) **Sampling and testing.** The owner or operator of a facility subject to this section shall perform sampling and testing as follows:

1. Use one or more of the following methods to determine the monomer VOC content of a resin or gel coat.
   - SCQMD Method 312-91, *Determination of Percent Monomer in Polyester Resins.*
   - Manufacturer’s formulation data.
   - Other test methods or data demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department and the United States Environmental Protection Agency.

2. Use the test methods and procedures specified in Chapter 139 (relating to sampling and testing) for sampling and testing of add-on air pollution control devices.

(o) **Recordkeeping requirements.** The owner or operator of a facility subject to this section shall maintain monthly records sufficient to demonstrate compliance with this section. The records must include the following information:

1. The name and identification number of each resin and gel coat.
2. The total quantity of atomized molding production resin, non-atomized production resin, pigmented gel coat, clear gel coat, atomized tooling resin, non-atomized tooling resin and tooling gel coat used per month.
3. The monomer VOC content for each resin and gel coat.
4. The non-monomer VOC content for each resin and gel coat.
5. The calculations performed for each applicable requirement under subsections (f), (h) and (j).
6. The name and identification number only for each resin used in accordance with subsection (j)(1). The records specified in paragraphs (1)—(5) do not apply to resins used in accordance with subsection (j)(1).
7. The name, identification number and VOC content or composite vapor pressure for each cleaning solvent used for routine application equipment cleaning.
8. The information required by the plan approval issued under subsection (g), as applicable.
9. The results of sampling and testing performed in accordance with subsection (n).

(p) **Reporting requirements.** The records shall be maintained for 2 years unless a longer period is required by an order issued by the Department or 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.

**Authority**

The provisions of this § 129.74 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.74 adopted December 18, 2015, effective December 19, 2015, 45 Pa.B. 7127.

**Cross References**

This section cited in 25 Pa. Code § 129.96 (relating to applicability).
§ 129.75. Mobile equipment repair and refinishing.

(a) Except as provided in subsection (b), this section applies to a person who applies mobile equipment repair and refinishing or color matched coatings to mobile equipment or mobile equipment components.

(b) This section does not apply to a person who applies surface coating to mobile equipment or mobile equipment components under one of the following circumstances:

1. The surface coating process is subject to the miscellaneous metal parts finishing requirements of § 129.52 (relating to surface coating processes) or the requirements of § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings).

2. The surface coating process is at an automobile assembly plant.

3. The person applying the coatings does not receive compensation for the application of the coatings.

(c) Beginning November 27, 2000, a person may not apply to mobile equipment or mobile equipment components any automotive pretreatment, automotive primer-surfacer, automotive primer-sealer, automotive topcoat and automotive specialty coatings including any VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table III.

Table III

Allowable Content of VOCs in Mobile Equipment Repair and Refinishing Coatings

<table>
<thead>
<tr>
<th>Allowable VOC Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of VOC per Volume of Coating</td>
</tr>
<tr>
<td>(as applied)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coating Type</th>
<th>Limit Pounds per Gallon</th>
<th>Grams per Liter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive pretreatment primer</td>
<td>6.5</td>
<td>780</td>
</tr>
<tr>
<td>Automotive primer-surfacer</td>
<td>4.8</td>
<td>575</td>
</tr>
<tr>
<td>Automotive primer-sealer</td>
<td>4.6</td>
<td>550</td>
</tr>
<tr>
<td>Automotive topcoat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>single stage-topcoat</td>
<td>5.0</td>
<td>600</td>
</tr>
<tr>
<td>2 stage basecoat/clearcoat</td>
<td>5.0</td>
<td>600</td>
</tr>
<tr>
<td>3 or 4-stage basecoat/clearcoat</td>
<td>5.2</td>
<td>625</td>
</tr>
<tr>
<td>Automotive multicolored topcoat</td>
<td>5.7</td>
<td>680</td>
</tr>
<tr>
<td>Automotive specialty</td>
<td>7.0</td>
<td>840</td>
</tr>
</tbody>
</table>

(d) A person who provides mobile equipment repair and refinishing coatings subject to this section shall provide documentation concerning the VOC content of the coatings calculated in accordance with the following:
(1) The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds, shall be calculated by the following equation:

\[
VOC = \frac{(W_v - W_w - W_{ec})}{(V - V_w - V_{ec})}
\]

where:
- \(VOC\) = VOC content in grams per liter (g/l) of coating less water and non-VOC solvents.
- \(W_v\) = Mass of total volatiles, in grams.
- \(W_w\) = Mass of water, in grams.
- \(W_{ec}\) = Mass of exempt compounds, in grams.
- \(V\) = Volume of coating, in liters.
- \(V_w\) = Volume of water, in liters.
- \(V_{ec}\) = Volume of exempt compounds, in liters.

To convert from grams per liter to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345 x 10^{-3} (lb/gal/g/l).

(2) The VOC content of a multistage topcoat shall be calculated by the following equation:

\[
VOC_{multi} = \frac{VOC_{bc} + \sum_{i=0}^{M} VOC_{mci} + 2(VOC_{cc})}{M + 3}
\]

where:
- \(VOC_{multi}\) = VOC content of multistage topcoat, g/l
- \(VOC_{bc}\) = VOC content of basecoat, g/l
- \(VOC_{mci}\) = VOC content of the midcoat(s), g/l
- \(VOC_{cc}\) = VOC content of the clear coat, g/l
- \(M\) = number of midcoats

(e) Beginning November 27, 2000, a person at a facility subject to this section shall use one or more of the following application techniques to apply any finish material listed in Table III:

1. Flow/curtain coating.
2. Dip coating.
3. Roller coating.
4. Brush coating.
5. Cotton-tipped swab application.
6. Electrodeposition coating.
7. High volume low pressure (HVLP) spraying.
8. Electrostatic spray.
10. Other coating application method that the person demonstrates and the Department determines achieves emission reductions equivalent to HVLP or electrostatic spray application methods.
(f) The following situations are exempt from the application equipment requirements in subsection (e):
   (1) The use of airbrush application methods for stenciling, lettering and other identification markings.
   (2) The application of coatings sold in nonrefillable aerosol containers.
   (3) Automotive touch-up repair.

(g) Spray guns used to apply mobile equipment repair and refinishing coatings shall be cleaned by one of the following:
   (1) An enclosed spray gun cleaning system that is kept closed when not in use.
   (2) Unatomized discharge of solvent into a paint waste container that is kept closed when not in use.
   (3) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.
   (4) Atomized spray into a paint waste container that is fitted with a device designed to capture atomized solvent emissions.

(h) The owner and operator of a facility subject to this section shall implement the following housekeeping and pollution prevention and training measures:
   (1) Fresh and used coatings, solvent and cleaning solvents shall be stored in nonabsorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying.
   (2) Cloth and paper, or other absorbent applicators, moistened with coatings, solvents or cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers.
   (3) Handling and transfer procedures shall minimize spills during the transfer of coatings, solvents and cleaning solvents through the use of devices including pumps or spouts on larger containers.
   (4) Ensure that a person who applies mobile equipment repair and refinishing coatings has completed training in the proper use and handling of the mobile equipment repair and refinishing coatings, solvents and waste products to minimize the emission of air contaminants and to comply with this section.

Authority

The provisions of this § 129.75 amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source


Cross References

This section cited in 25 Pa. Code § 129.96 (relating to applicability).

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

(a) This section applies to the owner or operator of a facility that uses or applies one or more of the following at the facility on or after January 1, 2012:
   (1) An adhesive, sealant, adhesive primer or sealant primer subject to the VOC content limits in Table V.

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(2) An adhesive or sealant product applied to the listed substrate subject to the VOC content limits in Table VI.

(3) A surface preparation solvent or cleanup solvent.

(b) On or after January 1, 2012, an owner or operator of a facility may not use or apply at the facility an adhesive, sealant, adhesive primer or sealant primer that exceeds the applicable VOC content limit in Table V or VI, except as provided elsewhere in this section.

(c) On or after January 1, 2012, an owner or operator of a facility may not use or apply at the facility a surface preparation or cleanup solvent that exceeds the applicable VOC content limit or composite partial vapor pressure requirements of this section, except as provided elsewhere in this section.

(d) The VOC content limits in Table VI for adhesives or sealants applied to particular substrates apply as follows:

(1) If an owner or operator of a facility uses or applies at the facility an adhesive or sealant subject to a specific VOC content limit in Table V, the specific limit is applicable rather than the adhesive-to-substrate limit in Table VI.

(2) If an owner or operator of a facility uses or applies at the facility an adhesive to bond dissimilar substrates together, the applicable substrate category with the highest VOC content limit is the limit for this use.

(e) An owner or operator of a facility subject to this section using or applying a surface preparation solvent or cleanup solvent at the facility may not:

(1) Except as provided in paragraph (2) for single-ply roof membrane, use materials containing VOCs for surface preparation, unless the VOC content of the surface preparation solvent is less than 70 grams per liter of material or 0.6 pound of VOC per gallon of material.

(2) Use materials containing VOCs for surface preparation or cleanup when applying single-ply roof membrane, unless the composite partial vapor pressure, excluding water and exempt compounds, of the surface preparation solvent or cleanup solvent is less than or equal to 45 mm mercury at 20° C.

(3) Except as provided in subsection (f), use cleanup solvent materials containing VOCs for the removal of adhesives, sealants, adhesive primers or sealant primers from surfaces, other than from the parts of spray application equipment, unless the composite partial vapor pressure of the solvent is less than or equal to 45 mm mercury at 20° C.

(f) Removal of an adhesive, sealant, adhesive primer or sealant primer from the parts of spray application equipment shall be performed by one or more of the following methods:

(1) Using an enclosed cleaning system, or an equivalent cleaning system as determined by the test method identified in subsection (z).

(2) Using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material or 0.6 pound of VOC per gallon of material.

(3) Soaking parts containing dried adhesive in a solvent if the composite partial vapor pressure of the solvent, excluding water and exempt compounds, is less than or equal to 9.5 mm mercury at 20° C and the parts and solvent are in a closed container that remains closed except when adding parts to or removing parts from the container.
(g) An owner or operator of a facility using or applying at the facility an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to the VOC content limits of this section may comply with the requirements of this section through the use of add-on air pollution control equipment if the following requirements are met:

(1) The VOC emissions from the use of all noncomplying as applied adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents subject to this section are reduced by an overall efficiency of at least 85%, by weight.

   (i) The capture efficiency of the system shall be determined in accordance with subsection (y)(1).

   (ii) The control efficiency of the system shall be determined in accordance with subsection (y)(2).

(2) The combustion temperature is continuously monitored and recorded daily if a thermal incinerator is operated.

(3) Inlet and exhaust gas temperatures are continuously monitored and recorded daily if a catalytic incinerator is operated.

(4) Control device efficiency is monitored continuously and recorded daily if a carbon absorber or control device other than a thermal or catalytic incinerator is operated.

(5) Operation records sufficient to demonstrate compliance with the requirements of this section are maintained in accordance with subsections (o), (p) and (q).

(6) The following information is also recorded and maintained:

   (i) Daily records of the volume used each day of each noncomplying as applied adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent.

   (ii) Daily records of the hours of operation of the add-on air pollution control equipment.

   (iii) Records of all maintenance performed on the add-on air pollution control equipment, including the date and type of maintenance.

(7) The control equipment is approved, in writing, by the Department in an operating permit.

(8) The owner or operator of a facility that intends to comply with this section using add-on air pollution control equipment may apply to the Department for an extension to the compliance date specified in subsections (a)—(c).

   (i) The Department will approve the extension request if the request meets the requirements in subparagraph (ii).

   (ii) The extension request must:

      (A) Be received, in writing, by January 1, 2012.

      (B) Include the date by which a permit application or request for plan approval will be submitted.

      (C) Demonstrate to the Department’s satisfaction that an extension is necessary.

   (iii) An extension will be automatically revoked if the recipient fails to comply with its terms by the dates specified in it.
An owner or operator of a facility subject to this section shall store or dispose of all absorbent materials, including cloth or paper, which are moistened with adhesives, sealants, primers, surface preparation solvents or cleanup solvents subject to this section, in nonabsorbent containers at the facility that are kept closed except when placing materials in or removing materials from the container.

An owner or operator of a facility subject to this section may not solicit, require or specify the use or application of an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the use or application would result in a violation of this section, unless the emissions are controlled through the use of add-on air pollution control equipment as specified in subsection (g). The prohibition of this subsection applies to all written or oral contracts created on or after January 1, 2012, under which an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to this section is to be used or applied at a facility in this Commonwealth.

An owner or operator of a facility subject to this section who uses or applies an adhesive, sealant, adhesive primer or sealant primer subject to this section may not add solvent to the adhesive, sealant, adhesive primer or sealant primer in an amount in excess of the manufacturer’s recommendation for application, if this addition causes the adhesive, sealant, adhesive primer or sealant primer to exceed the applicable VOC content limit listed in Table V or VI, unless the emissions are controlled through the use of add-on air pollution control equipment as specified in subsection (g).

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

1. Adhesives, sealants, adhesive primers or sealant primers being tested or evaluated in a research and development, quality assurance or analytical laboratory, if records are maintained as required in subsections (p) and (q).

2. Adhesives, sealants, adhesive primers or sealant primers that are subject to other sections in this chapter or Chapter 130 (relating to standards for products).

3. Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied.


5. Adhesives, sealants, adhesive primers or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of 1 pound or less, except plastic cement welding adhesives and contact adhesives.

6. Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of 1 gallon or less.

This section does not apply to the use of adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents or cleanup solvents in the following operations:

1. Tire repair operations, if the label of the adhesive states, “For tire repair only.”
(2) The assembly, repair and manufacture of aerospace components or undersea-based weapons systems.

(3) The manufacture of medical equipment.

(4) Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. An owner or operator claiming an exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).

(m) This section does not apply if the total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used or applied at the facility are less than 200 pounds or an equivalent volume, per calendar year. An owner or operator of a facility claiming exemption under this subsection shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).

(n) This section does not apply to the use or application of a noncomplying adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the total volume of noncomplying adhesives, sealants, primers, surface preparation and cleanup solvents used or applied facility-wide does not exceed 55 gallons per calendar year. An owner or operator of a facility claiming exemption under this subsection shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).

(o) Except as provided in subsection (p), each owner or operator subject to this section shall maintain records demonstrating compliance with this section, including the following information:

1. A list of each adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent product in use and in storage.

2. A data sheet or material list which provides the product name, manufacturer identification and use or material application for each product included on the list required under paragraph (1).

3. The VOC content of each product on the list required under paragraph (1), as supplied.

4. Catalysts, reducers or other components used and the mix ratio.

5. The VOC content or vapor pressure of each product on the list required by paragraph (1), as applied, if solvent or other VOC is added to the product before application.

6. The volume purchased or produced of each product on the list required under paragraph (1).

7. The monthly volume used or applied as part of a manufacturing process at the facility of each product on the list required under paragraph (1).

(p) For an adhesive, sealant, adhesive primer and sealant primer product subject to the laboratory testing exemption of subsection (k)(1), the person conducting the testing shall make and maintain records of all products used, including the following information:

1. The product name.

2. The product category of the material or type of application.
(q) Records made to determine compliance with this section shall be:

(1) Maintained onsite for 5 years from the date the record is created.

(2) Made available to the Department upon receipt of a written request.

(r) Except as otherwise provided in this section, the VOC and solids content of non-aerosol adhesives (including one-part moisture cure urethane adhesives and silicone adhesives), sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents shall be determined using one of the following:

(1) EPA Reference Method 24, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(2) SCAQMD Method 304, Determination of Volatile Organic Compounds (VOC) in Various Materials, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

(s) The weight volatile matter content and weight solids content for one-part or multiple part reactive adhesives, except one-part moisture cure urethane adhesives and silicone adhesives, shall be determined using the EPA Reference Method, Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives, found at 40 CFR 63, Subpart PPPP, Appendix A, including updates and revisions.

(t) The identity and concentration of exempt organic compounds shall be determined using one of the following:

(1) ASTM D4457, Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph, ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 USA including updates and revisions.

(2) SCAQMD Method 303, Determination of Exempt Compounds, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

(u) The VOC content of a plastic cement welding adhesive or primer shall be determined using SCAQMD Method 316A, Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

(v) To determine if a diluent is a reactive diluent, the percentage of the reactive organic compound that becomes an integral part of the finished material shall be determined using SCAQMD Method 316A, Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

(w) The composite partial vapor pressure of organic compounds in cleaning materials shall be determined by the following procedure:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using the following methods:
Calculating the composite partial vapor pressure using the following equation:

\[
PP_c = \frac{n \sum (W_i)(VP_i)/MW_i}{W_w/MW_w + \sum W_e/MW_e + \sum W_i/MW_i}
\]

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 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 (x).

(x) 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 USA, including updates and revisions.

2. The most recent edition of one or more of the following sources:
   - CRC Handbook of Chemistry and Physics, CRC Press.
   - Additional sources approved by the SCAQMD or other California air districts.

(y) If air pollution control equipment is used to meet the requirements of this section, the owner or operator shall make both of the following determinations:
The measurement of capture efficiency shall be conducted and reported in accordance with the EPA Technical Document “Guidelines for Determining Capture Efficiency,” issued January 9, 1995.

The control efficiency shall be determined in accordance with one of the following:

(i) EPA Reference Method 25, *Determination of Total Gaseous Non-methane Organic Emissions as Carbon*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.


(iii) EPA Reference Method 25B, *Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(iv) CARB Method 100, *Procedures for Continuous Gaseous Emission Stack Sampling*, California Air Resources Board, 1001 “I” Street, Post Office Box 2815, Sacramento, CA 95812 USA, including updates and revisions.

The active and passive solvent losses from the use of an enclosed spray gun cleaning system or equivalent cleaning system, as listed in subsection (f)(1), shall be determined using the SCAQMD method, *General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems*, dated October 3, 1989, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

The test solvent for this determination shall be a lacquer thinner with a minimum vapor pressure of 105 mm of mercury at 20° C.

The minimum test temperature shall be 15° C.

Another test method may be used to determine the VOC or solids content of a product if the request for approval of the test method meets the following requirements:

The request is submitted to the Department in writing.

The request demonstrates that the test method provides results that accurately determine the concentration of VOCs in the product or its emissions.

The Department approves the request in writing.

For adhesive, sealant, adhesive primer or sealant primer products that do not contain reactive diluents, grams of VOC per liter of product thinned to the manufacturer’s recommendation, less water and exempt compounds, shall be calculated according to the following equation:

\[
\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}
\]

Where:
- \(W_s\) = weight of volatile compounds, in grams.
- \(W_w\) = weight of water, in grams.
- \(W_e\) = weight of exempt compounds, in grams.
- \(V_m\) = volume of material, in liters.
Vw = volume of water, in liters.
Ve = volume of exempt compounds, in liters.

(cc) For adhesive, sealant, adhesive primer or sealant primer products that contain reactive diluents, the VOC content of the product is determined after curing. The grams of VOC per liter of product thinned to the manufacturer’s recommendation, less water and exempt compounds, shall be calculated according to the following equation:

\[
\text{Grams of VOC per liter of product, as applied} = \frac{Wrs - Wrw - Wre}{Vrm - Vrw - Vre}
\]

Where:
Wrs = weight of volatile compounds not consumed during curing, in grams.
Wrw = weight of water not consumed during curing, in grams.
Wre = weight of exempt compounds not consumed during curing, in grams.
Vrm = volume of material not consumed during curing, in liters.
Vrw = volume of water not consumed during curing, in liters.
Vre = volume of exempt compounds not consumed during curing, in liters.

(dd) For low-solids adhesive, sealant, adhesive primer or sealant primer products, grams of VOC per liter of product thinned to the manufacturer’s recommendation, including the volume of water and exempt compounds, shall be calculated according to the following equation:

\[
\text{Grams of VOC per liter of product, as applied} = \frac{Ws - Ww - We}{Vm}
\]

Where:
Ws = weight of volatile compounds, in grams.
Ww = weight of water, in grams.
We = weight of exempt compounds, in grams.
Vm = volume of material, in liters.

(ee) Percent VOC by weight shall be calculated according to the following equation:

\[
\% \text{ VOC by weight} = \left[\frac{Wv}{W}\right] \times 100
\]

Where:
Wv = weight of VOCs, in grams.
W = weight of material, in grams.

(ff) To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by \(8.345 \times 10^{-3}\) (lb/gal/g/l).
Table V. VOC Content Limits for Adhesives, Sealants, Adhesive Primers and Sealant Primers, As Applied

<table>
<thead>
<tr>
<th>Adhesive, sealant, adhesive primer or sealant primer category</th>
<th>VOC content limit (pounds VOC per gallon, less water and exempt compounds)*</th>
<th>VOC content limit (grams VOC per liter, less water and exempt compounds)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adhesives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABS welding</td>
<td>3.3 400</td>
<td></td>
</tr>
<tr>
<td>Ceramic tile installation</td>
<td>1.1 130</td>
<td></td>
</tr>
<tr>
<td>Computer diskette jacket manufacturing</td>
<td>7.1 850</td>
<td></td>
</tr>
<tr>
<td>Contact bond</td>
<td>2.1 250</td>
<td></td>
</tr>
<tr>
<td>Cove base installation</td>
<td>1.3 150</td>
<td></td>
</tr>
<tr>
<td>CPVC welding</td>
<td>4.1 490</td>
<td></td>
</tr>
<tr>
<td>Indoor floor covering installation</td>
<td>1.3 150</td>
<td></td>
</tr>
<tr>
<td>Metal to urethane/rubber molding or casting</td>
<td>7.1 850</td>
<td></td>
</tr>
<tr>
<td>Multipurpose construction</td>
<td>1.7 200</td>
<td></td>
</tr>
<tr>
<td>Nonmembrane roof installation/repair</td>
<td>2.5 300</td>
<td></td>
</tr>
<tr>
<td>Outdoor floor covering installation</td>
<td>2.1 250</td>
<td></td>
</tr>
<tr>
<td>Perimeter bonded sheet vinyl flooring installation</td>
<td>5.5 660</td>
<td></td>
</tr>
<tr>
<td>Plastic cement welding, other than ABS, CPVC or PVC welding</td>
<td>4.3 510</td>
<td></td>
</tr>
<tr>
<td>PVC welding</td>
<td>4.3 510</td>
<td></td>
</tr>
<tr>
<td>Sheet rubber installation</td>
<td>7.1 850</td>
<td></td>
</tr>
<tr>
<td>Single-ply roof membrane installation/repair</td>
<td>2.1 250</td>
<td></td>
</tr>
<tr>
<td>Structural glazing</td>
<td>0.8 100</td>
<td></td>
</tr>
<tr>
<td>Thin metal laminating</td>
<td>6.5 780</td>
<td></td>
</tr>
<tr>
<td>Tire retread</td>
<td>0.8 100</td>
<td></td>
</tr>
<tr>
<td>Waterproof resorcinol glue</td>
<td>1.4 170</td>
<td></td>
</tr>
<tr>
<td><strong>Sealants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural</td>
<td>2.1 250</td>
<td></td>
</tr>
<tr>
<td>Marine deck</td>
<td>6.3 760</td>
<td></td>
</tr>
<tr>
<td>Nonmembrane roof installation/repair</td>
<td>2.5 300</td>
<td></td>
</tr>
<tr>
<td>Roadway</td>
<td>2.1 250</td>
<td></td>
</tr>
<tr>
<td>Single-ply roof membrane</td>
<td>3.8 450</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3.5 420</td>
<td></td>
</tr>
</tbody>
</table>
### Adhesive, sealant, adhesive primer or sealant primer category

<table>
<thead>
<tr>
<th>Adhesive Primers</th>
<th>VOC content limit (pounds per gallon)</th>
<th>VOC content limit (grams per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive glass</td>
<td>5.8</td>
<td>700</td>
</tr>
<tr>
<td>Plastic cement welding</td>
<td>5.4</td>
<td>650</td>
</tr>
<tr>
<td>Single-ply roof membrane</td>
<td>2.1</td>
<td>250</td>
</tr>
<tr>
<td>Traffic marking tape</td>
<td>1.3</td>
<td>150</td>
</tr>
<tr>
<td>Other</td>
<td>2.1</td>
<td>250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sealant Primers</th>
<th>VOC content limit (pounds per gallon)</th>
<th>VOC content limit (grams per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine deck</td>
<td>6.3</td>
<td>760</td>
</tr>
<tr>
<td>Nonporous architectural</td>
<td>2.1</td>
<td>250</td>
</tr>
<tr>
<td>Porous architectural</td>
<td>6.5</td>
<td>775</td>
</tr>
<tr>
<td>Other</td>
<td>6.3</td>
<td>750</td>
</tr>
</tbody>
</table>

*The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (bb) and (cc) or as the weight of VOC per volume of product, as specified in subsection (dd).

### Table VI. VOC Content Limits for Adhesive or Sealant Products Applied to Particular Substrates, As Applied

<table>
<thead>
<tr>
<th>Adhesive or Sealant Products</th>
<th>VOC content limit (pounds per gallon)</th>
<th>VOC content limit (grams per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied to the Listed Substrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiberglass</td>
<td>1.7</td>
<td>200</td>
</tr>
<tr>
<td>Flexible vinyl</td>
<td>2.1</td>
<td>250</td>
</tr>
<tr>
<td>Metal</td>
<td>0.3</td>
<td>30</td>
</tr>
<tr>
<td>Porous material</td>
<td>1.0</td>
<td>120</td>
</tr>
<tr>
<td>Rubber</td>
<td>2.1</td>
<td>250</td>
</tr>
<tr>
<td>Other substrates</td>
<td>2.1</td>
<td>250</td>
</tr>
</tbody>
</table>

*The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (bb) and (cc) or as the weight of VOC per volume of product, as specified in subsection (dd).

### Authority

The provisions of this § 129.77 amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).
§ 129.81. Organic liquid cargo vessel loading and ballasting.

The following provisions apply in the counties of Delaware and Philadelphia:

1. A person may not cause or permit the loading of gasoline into an organic liquid cargo vessel unless the following exist:
   
   i. The VOC vapors displaced by the loading operation are processed through a vapor recovery or destruction device operated to reduce the VOCs by at least 90% by weight.
   
   ii. The vapor collection and transport system employed to carry VOCs to the vapor control system is maintained and operated so that it prevents the following:

      A. A reading equal to or greater than 100% of the lower explosive limit (LEL), measured as propane, at 1 inch (2.5 centimeters) from all points on the perimeter of a potential leak source when measured by the method referenced in § 139.14 (relating to emissions of VOCs) during loading operations.
      
      B. Avoidable liquid leaks during loading operations.
      
      C. Visually or audibly detectable leaks in the organic liquid cargo vessel’s cargo tanks, hatch covers, storage tanks pressure/vacuum relief values and associated vapor and liquid lines during loading.

   iii. The pressure and vacuum relief valves on the liquid cargo vessel are set to release at no less than 0.7 psig (4.8 kilopascals) of pressure or 0.3 psig (2.1 kilopascals) of vacuum or the highest allowable pressure and vacuum as specified in State or local fire codes, the National Fire Prevention Association guidelines or other National consensus standards acceptable to the Department.

2. Except as provided in paragraph (4), a person may not cause or permit the emission of VOCs from the ballasting of an organic liquid cargo vessel containing crude oil or gasoline unless the emissions are processed through a vapor recovery or destruction device operated so as to reduce the VOCs by at least 90% by weight.

3. Compliance with this section shall be achieved in accordance with the following:

   i. Installation of the piping, pressure relief valves and other devices necessary to collect and transport VOCs from affected organic liquid vessel...
cargo compartments to the required VOC vapor recovery/destruction system shall be completed by September 28, 1996.

(ii) Installation of vapor recovery devices/destruction devices at marine terminals shall be completed by September 28, 1994.

(iii) Installation of vessel mounted vapor recovery or destruction devices shall be completed by September 28, 1996.

(4) Other provisions of this section notwithstanding, the Department may allow a facility to implement permanent and enforceable measures, including recordkeeping and reporting requirements, which are approved by the EPA to reduce the emission of VOCs from ballasting of an organic liquid cargo vessel containing crude oil or gasoline as follows:

(i) By September 28, 1992, a minimum of 40% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(ii) By September 28, 1996, a minimum of 65% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(iii) By January 1, 2003, a minimum of 90% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(iv) By January 1, 2010, 98% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(5) Compliance with paragraphs (2)—(4) may also be achieved by meeting the requirements for equivalency in § 129.51(a) (relating to general).

Authority
The provisions of this § 129.81 issued under sections 5 and 6.1 of the Air Pollution Control Act (35 P.S. §§ 4005 and 4006.1).

Source

Cross References
This section cited in 25 Pa.Code § 129.91 (relating to control of major sources of NOx and VOCs).
§ 129.82. Control of VOCs from gasoline dispensing facilities (Stage II).

(a) After the date specified in paragraph (1), (2) or (3), an owner or operator of a gasoline dispensing facility subject to this section may not transfer or allow the transfer of gasoline into a motor vehicle fuel tank unless the dispensing facility is equipped with a Department approved and properly operating Stage II vapor recovery or vapor collection system. Unless a higher percent reduction is required by the EPA under section 182 of the Clean Air Act (42 U.S.C.A. § 7511a), approval by the Department of a Stage II vapor collection system will be based on a determination that the system will collect at least 90% by weight, of the gasoline vapors that are displaced or drawn from a vehicle fuel tank during refueling and the captured vapors are returned to a vapor tight holding system or vapor control system.

(1) This paragraph applies to gasoline dispensing facilities located in areas classified as moderate, serious or severe ozone nonattainment areas under section 181 of the Clean Air Act (42 U.S.C.A. § 7511) including the counties of Berks, Bucks, Chester, Delaware, Montgomery, Philadelphia with monthly throughputs greater than 10,000 gallons (37,850 liters). In the case of independent small business marketers of gasoline as defined in section 325 of the Clean Air Act (42 U.S.C.A. § 7625a), this section shall not apply if the monthly throughput is less than 50,000 gallons (189,250 liters).

(i) Facilities for which construction was commenced after November 15, 1990, shall achieve compliance by May 15, 1993.

(ii) Facilities which dispense greater than 100,000 gallons (378,500 liters) of gasoline per month, based on average monthly sales for the 2-year period immediately preceding November 15, 1992, shall achieve compliance by November 15, 1993.

(iii) Other affected facilities shall achieve compliance by November 15, 1994.

(2) Gasoline dispensing facilities with annual throughputs greater than 10,000 gallons (37,850 liters) in the counties of Bucks, Chester, Delaware, Montgomery and Philadelphia shall be subject to this section immediately upon the addition or replacement of one or more underground gasoline storage tanks for which construction was commenced after November 15, 1992.

(3) This paragraph applies to gasoline dispensing facilities located in the counties of Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland with monthly throughputs greater than 10,000 gallons (37,850 liters). In the case of independent small business marketers of gasoline as defined in section 325 of the Clean Air Act (42 U.S.C.A. § 7625a), this section does not apply if the monthly throughput is less than 50,000 gallons (189,250 liters).
(i) Facilities for which construction was commenced after April 1, 1997, shall achieve compliance at the time of opening of the gasoline dispensing facility.

(ii) Facilities which dispense greater than or equal to 120,000 gallons (454,200 liters) of gasoline per month, based on average monthly sales during calendar years 1995 and 1996, shall achieve compliance by July 1, 1999.

(iii) Facilities which dispense greater than 90,000 gallons (340,650 liters) per month but less than 120,000 gallons (454,200 liters) per month based on average monthly sales during calendar years 1995 and 1996 shall achieve compliance by December 31, 2000.

(4) For purposes of this section, the term “construction” includes, but is not limited to, the addition or replacement of one or more underground gasoline storage tanks.

(b) Owners or operators, or both, of gasoline dispensing facilities subject to this section shall:

(1) Install necessary Stage II vapor collection and control systems, provide necessary maintenance and make modifications necessary to comply with the requirements.

(2) Provide adequate training and written instructions to the operator of the affected gasoline dispensing facility to assure proper operation of the system.

(3) Immediately remove from service and tag any defective nozzle or dispensing system until the defective component is replaced or repaired. A component removed from service may not be returned to service until the defect is corrected. If the Department finds that a defective nozzle or dispensing system is not properly tagged during an inspection, the component may not be returned to service until the defect is corrected, and the Department approves its return to service.

(4) Conspicuously post-operating instructions for the system in the gasoline dispensing area which, at a minimum, include:

(i) A clear description of how to correctly dispense gasoline with the vapor recovery nozzles utilized at the site.

(ii) A warning that continued attempts to dispense gasoline after the system indicates that the vehicle fuel tank is full may result in spillage or recirculation of the gasoline into the vapor collection system.

(iii) A telephone number established by the Department for the public to report problems experienced with the system.

(5) Maintain records of system test results, monthly throughput, type and duration of any failures of the system and maintenance and repair records on the premises of the affected gasoline dispensing facility. The records shall be kept for at least 2 years and shall be made available for inspection, upon request, by the Department.

(c) If an area is reclassified from attainment or marginal nonattainment to serious, nonattainment under section 181 of the Clean Air Act, gasoline dispensing facilities located in the reclassified area will be subject to subsection (a)(1).
For purposes of establishing an effecting date for the reclassified area, the date of the Federal Register final notice of the reclassification shall serve as the date of publication of this subsection as final in the Pennsylvania Bulletin.

(d) If an onboard canister refueling emissions control program has been fully implemented by the EPA by December 31, 2010, the operation and maintenance of Department-approved Stage II systems will no longer be required in the counties of Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland.

(e) The owners or operators of gasoline dispensing facilities shall comply with the functional testing and certification requirements specified in EPA’s Stage II Enforcement and Technical Guidance Documents developed under section 182 of the Clean Air Act to meet the Clean Air Act requirements.

Authority

The provisions of this § 129.82 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

The provisions of this § 129.82 adopted February 7, 1992, effective February 8, 1992, 22 Pa.B. 585; amended April 9, 1999, effective April 10, 1999, 29 Pa.B. 1889. Immediately preceding text appears at serial pages (199547) to (199548) and (247043).

Cross References

This section cited in 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs).

STATIONARY SOURCES OF NOx AND VOCs

§ 129.91. Control of major sources of NOx and VOCs.

(a) This section applies to both the owner and the operator of a major NOx emitting facility or major VOC emitting facility for which no RACT requirement has been established in §§ 129.51, 129.52, 129.54—129.72, 129.81 and 129.82. This section does not apply to the owner and operator of a major VOC emitting facility for which requirements have been established in § 129.52, Table I (11) (relating to surface coating processes) and §§ 129.101—129.107 (relating to wood furniture manufacturing operations).

(b) The owner and the operator shall, jointly, provide the Department with the following information on or before May 16, 1994.

(1) An identification of each facility including individual sources to which this section applies.

(2) A determination through emission testing of the following:

(i) The total potential to emit and the actual emissions of VOCs for the 1990 calendar year from each source at the facility.

(ii) The total potential to emit and actual emissions of NOx for the 1990 calendar year from each source at the facility.

(c) Alternative methods which accurately characterize the emissions for the 1990 calendar year may be used to determine potential and actual emissions.
under subsection (b) if emission test data are not available and the Department has approved the alternative method in writing.

(d) The owner and the operator of a major NOx emitting facility or major VOC emitting facility shall, jointly, on or before July 15, 1994, provide to the Department and the EPA, Chief, Air Programs Branch, United States EPA, Region III, 841 Chestnut Building, Philadelphia, Pennsylvania 19107 a written proposal for RACT for each source of VOCs and NOx at the facility. The RACT proposal shall include, at a minimum, the information contained in § 129.92 (relating to RACT proposal requirements).

(e) The Department will approve, deny or modify each RACT proposal.

(f) Upon receipt of notice of the Department’s approval of the RACT proposal, the facility shall begin implementation of the measures necessary to comply with the approved or modified RACT proposal. Implementation of the RACT program shall be completed according to the schedule established in the approved RACT program and shall be as expeditious as practicable but no later than May 31, 1995.

(g) Where the installation of a new source, modification or change in operation of an existing source will result in the source or facility meeting the definition of a major NOx emitting facility or a major VOC emitting facility, the owner and the operator shall jointly submit a RACT proposal to the Department and the EPA that meets the requirements of this section, and complete implementation of the RACT proposal as approved or modified by the Department prior to the installation, modification or change in operation of the existing source.

(h) Except for sources which elect to comply with the presumptive RACT emission limitations in § 129.93 (relating to presumptive RACT emission limitations), the Department will submit each RACT determination to the EPA for approval as a revision to the SIP. A major NOx emitting facility or major VOC emitting facility shall bear the costs of public hearings and notification required for EPA approval.

(i) Following the implementation of the RACT requirements, the owner and operator of a combustion unit with a rated heat input of 250 million Btus per hour or greater and subject to § 123.51 (relating to monitoring requirements) shall, through the use of a Department approved continuous emission monitoring system, determine the rate of emissions of NOx from the combustion unit. Following the implementation of the RACT requirements, the owner and operator of a combustion unit with a rated heat input greater than 100 million Btus per hour and not subject to § 123.51, shall, through the use of either a Department approved periodic source testing program or predictive modeling program, determine the rate of emissions of NOx from the combustion unit unless the owner and operator elects to use a Department approved continuous monitoring system.

(j) Based on the results of the emission monitoring conducted in accordance with subsection (i), the Department will determine the RACT emission limitations for the source and the Department will submit the emission limitations to the EPA as a Federally enforceable permit.
 § 129.92. **RACT proposal requirements.**

(a) Each RACT proposal shall, at a minimum, include the following information:

1. A list of each source subject to the RACT requirements.
2. The size or capacity of each affected source and the types of fuel combusted or the types and quantities of materials processed or produced in each source.
3. A physical description of each source and its operating characteristics.
4. Estimates of the potential and actual NO\textsubscript{x} and VOC emissions from each affected source and associated supporting documentation.
5. A RACT analysis which meets the requirements of subsection (b), including technical and economic support documentation for each affected source.
6. A schedule for completing implementation of the RACT proposal as expeditiously as practicable but not later than May 31, 1995, including interim dates for the issuance of purchase orders, start and completion of process, technology and control technology changes and the completion of compliance testing.
7. The testing, monitoring, recordkeeping and reporting procedures proposed to demonstrate compliance with RACT.
8. A plan approval application that meets the requirements of this article if required under § 127.11 (relating to plan approval requirements).
9. An application for an operating permit amendment or application to incorporate the provisions of the RACT proposal.
(10) Additional information requested by the Department that is necessary for the evaluation of the RACT proposal.
(b) The RACT analysis required under subsection (a)(5) shall include:
   (1) A ranking of the available control options for the affected source in descending order of control effectiveness. Available control options are air pollution control technologies or techniques with a reasonable potential for application to the source. Air pollution control technologies and techniques include the application of production process or methods, control systems for VOCs and NOx, and fuel combustion techniques for the control of NOx. The control technologies and techniques shall include existing controls for the source category and technology transfer controls applied to similar source categories.
   (2) An evaluation of the technical feasibility of the available control options identified in subsection (b)(1). The evaluation of technical feasibility shall be based on physical, chemical and engineering principles. A determination of technical infeasibility shall identify technical difficulties which would preclude the successful use of the control option on the affected source.
   (3) A ranking of the technically feasible control options in order of overall control effectiveness for NOx or VOC emissions. The list shall present the array of control options and shall include, at a minimum, the following information:
      (i) The baseline emissions of VOCs and NOx before implementation of each control option.
      (ii) The estimated emission reduction potential or the estimated control efficiency of each control option.
      (iii) The estimated emissions after the application of each control option.
      (iv) The economic impacts of each control option, including both overall cost effectiveness and incremental cost effectiveness.
   (4) An evaluation of cost effectiveness of each control option consistent with the “OAQPS Control Cost Manual” (Fourth Edition), EPA 450/3-90-006 January 1990 and subsequent revisions. The evaluation shall be conducted in accordance with the following requirements:
      (i) The cost effectiveness shall be evaluated in terms of dollars per ton of NOx or VOC emissions reduction.
      (ii) The cost effectiveness shall be calculated on average and incremental bases for each option. Average cost effectiveness is calculated as the annualized cost of the control option divided by the baseline emissions rate minus the control option emission rate, as shown by the following formula:

\[
\text{Average cost effectiveness ($/ton removed) =} \frac{\text{Control option total annualized cost ($/yr)}}{\text{Baseline emission rate - Control option rate (tons/yr)}}
\]

      (iii) For purposes of this paragraph, baseline emission rate represents the maximum emissions before the implementation of the control option. The baseline emissions rate shall be established using either test results or approved emission factors and historic operating data.
      (iv) For purposes of this paragraph, the incremental cost effectiveness calculation compares the costs and emission level of a control option to those of the next most stringent option, as shown by the following formula:
Incremental Cost (dollars) per incremental ton removed = 
Control option total annualized cost ($/yr) − Total annualized cost of next most stringent control option

Next most stringent control option emission rate − control option emission rate

(c) The RACT analysis, including the technical and economic documentation required by subsections (a)(5) and (b), will not be required for the sources which comply with the presumptive RACT emission limitations in § 129.93 (relating to presumptive RACT emission limitations).

Source

Cross References
This section cited in 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.91 (relating to control of major sources of NOX and VOCs); 25 Pa. Code § 129.94 (relating to NOX RACT emission averaging general requirements); 25 Pa. Code § 129.95 (relating to recordkeeping); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); and 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule).

§ 129.93. Presumptive RACT emission limitations.

(a) The owner and operator of a major NOX emitting facility listed in this section and subject to § 129.91 (relating to control of major sources of NOX and VOCs) may elect to comply with the emission limitations of this section as an alternative to developing and implementing a RACT emission limitation on a case-by-case basis.

(b) The owner and operator shall develop and implement the following presumptive RACT emission limitations:

(1) For a coal-fired combustion unit with a rated heat input equal to or greater than 100 million Btu/hour, presumptive RACT shall be the installation and operation of low NOX burners with separate overfire air.

(2) For a combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour presumptive RACT shall be the performance of an annual adjustment or tuneup on the combustion process. This adjustment shall include, at a minimum, the following:

(i) Inspection, adjustment, cleaning or replacement of fuel-burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer.

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(ii) Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of NOₓ, and to the extent practicable minimize emissions of CO.

(iii) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer.

(3) For combustion units subject to paragraph (2), the owner and operator of the adjusted equipment shall record each adjustment conducted under the procedures in paragraph (2) in a permanently bound log book or other method approved by the Department. This log shall contain, at a minimum, the following information:

(i) The date of the tuning procedure.

(ii) The name of the service company and technicians.

(iii) The final operating rate or load.

(iv) The final CO and NOₓ emission rates.

(v) The final excess oxygen rate.

(vi) Other information required by the applicable operating permit.

(4) For oil, gas and combination oil/gas units subject to paragraph (2), the owner and operator shall maintain records including a certification from the fuel supplier of the type of fuel and for each shipment of distillate oils number 1 or 2, a certification that the fuel complies with ASTM D396-78 “Standard Specifications for Fuel Oils.” For residual oils, minimum recordkeeping includes a certification from the fuel supplier of the nitrogen content of the fuel, and identification of the sampling method and sampling protocol.

(5) For oil and gas and combination oil/gas fired units subject to paragraph (2), the owner and operator shall make the annual adjustment in accordance with the EPA document “Combustion Efficiency Optimization Manual for Operators of Oil and Gas-fired Boilers,” September 1983 (EPA-340/1-83-023) or equivalent procedures approved in writing by the Department.

(c) For the following source types, presumptive RACT emission limitations are the installation, maintenance and operation of the source in accordance with manufacturers specifications:

(1) Boilers and other combustion sources with individual rated gross heat inputs less than 20 million Btu/hour of operation.

(2) Combustion turbines with individual heat input rates less than 25 million Btu/hour which are used for natural gas distribution.

(3) Internal combustion engines rated at less than 500 bhp (gross) which are set and maintaining 4° retarded relative to standard timing.

(4) Incinerators or thermal/catalytic oxidizers used primarily for air pollution control.

(5) Any fuel-burning equipment, gas turbine or internal combustion engine with an annual capacity factor of less than 5%, or an emergency standby engine operating less than 500 hours in a consecutive 12-month period.

(6) Sources which have been approved as meeting LAER for NOₓ emissions since November 15, 1990, with Federally enforceable emission limitations.
(7) Sources which have been approved as meeting BACT for NO<sub>x</sub> emissions since November 15, 1990, with Federally enforceable emission limitations. These sources shall, however, meet any more stringent category-wide RACT emission limitation promulgated by EPA or the Department.

Source


Cross References

This section cited in 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.92 (relating to RACT proposal requirements); 25 Pa. Code § 129.94 (relating to NO<sub>x</sub> RACT emission averaging general requirements); 25 Pa. Code § 129.95 (relating to recordkeeping); and 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule).

§ 129.94. NO<sub>x</sub> RACT emission averaging general requirements.

(a) The owners and operators of major NO<sub>x</sub> emitting facilities may submit a written proposal to the Department as part of an application for operating permits to average emissions to meet the RACT requirements of § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs). Emission averaging which complies with applicable EPA requirements and is approved as an SIP revision, and which meets the criteria in subsection (b) and is approved by the Department shall satisfy the requirements of § 129.91. The Department will approve, deny or modify each averaging proposal.

(b) The Department will not approve an emission averaging proposal unless the proposal demonstrates compliance with the following requirements to the Department’s satisfaction:

(1) The proposal shall demonstrate that the aggregate emissions achieved through the RACT averaging proposal are less than the sum of emissions that would be achieved by complying with the RACT requirement on a source specific basis.

(2) The averaging proposal shall include a tons per year emission cap and an emission rate such as pounds/million Btus for each source in the averaging proposal that provide for verification and enforcement of the averaging proposal.

(3) Emission reductions attributed to the shutdown or curtailment of operation of a source may not be included in an averaging proposal.
The proposal shall demonstrate that the ambient air quality impact resulting from implementation of the averaging proposal is less than or equivalent to the impact from each source complying with the RACT requirements in § 129.91 and §§ 129.92 and 129.93 (relating to RACT proposal requirements; and presumptive RACT emission limitations) individually. The demonstration shall consider the area of emissions impact and the periods of time of emissions impact except as follows:

(i) For emission averaging involving sources located within the same nonattainment area, the demonstration shall only consider the periods of time of emissions impact.

(ii) For emission averaging involving sources not located within the same nonattainment area which are located less than 200 kilometers from another source involved in the averaging proposal, the demonstration shall only consider the periods of time of emissions impact.

The proposal shall provide that each source involved in the averaging proposal shall be required to use continuous emission monitors and record emissions following the requirements of Chapter 139 (relating to sampling and testing). The participating sources are required to establish telemetry links between the sources and to provide real time emission data to all sources affected by the averaging proposal. For an averaging proposal involving sources at a single facility, the Department may approve alternate requirements provided the proposal demonstrates that the alternate methodologies are credible, workable, replicable and fully enforceable and adequately quantify emissions from all sources participating in the averaging program.

(c) An averaging proposal shall be approved by the EPA as an SIP revision before the averaging proposal may be implemented.

(d) Every source or facility involved in the approved averaging proposal is in violation of its operating permit when a source or facility subject to the averaging proposal exceeds an emission limitation or averaging requirement established under this section.

(e) Additional emission reductions required under the act or the Clean Air Act or the regulations adopted under either the act or the Clean Air Act shall be in addition to and not a substitute for the emission reductions required by the averaging proposal.

Source

Cross References
This section cited in 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relat-
§ 129.95. Recordkeeping.

(a) The owner and operator of a major NO\textsubscript{x} emitting facility or a major VOCs emitting facility shall keep records to demonstrate compliance with §§ 129.91—129.94.

(b) The records shall provide sufficient data and calculations to clearly demonstrate that the requirements of §§ 129.91—129.94 are met.

(c) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

(d) The records shall be retained for at least 2 years and shall be made available to the Department on request.

(e) An owner or operator claiming that a facility is exempt from the RACT requirements of §§ 129.91—129.94, based on the facility’s potential to emit, shall maintain records that clearly demonstrate to the Department that the facility or source is not subject to §§ 129.91—129.94.

Source


Cross References

This section cited in 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); and 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule).

ADDITIONAL RACT REQUIREMENTS FOR MAJOR SOURCES OF NO\textsubscript{x} AND VOCs

§ 129.96. Applicability.

(a) The NO\textsubscript{x} requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major NO\textsubscript{x} emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major VOC emitting facility that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or
both, has not been established in §§ 129.51—129.52e, 129.54—129.63, 129.64—129.69, 129.71—129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(b) The NO\textsubscript{x} requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a NO\textsubscript{x} emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a VOC emitting facility when the installation of a new source or a modification or change in operation of an existing source after July 20, 2012, results in the source or facility meeting the definition of a major NO\textsubscript{x} emitting facility or a major VOC emitting facility and for which a requirement or an emission limitation, or both, has not been established in §§ 129.51—129.52e, 129.54—129.69, 129.71—129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(c) This section and §§ 129.97—129.100 do not apply to the owner and operator of a NO\textsubscript{x} air contamination source located at a major NO\textsubscript{x} emitting facility that has the potential to emit less than 1 TPY of NO\textsubscript{x} or a VOC air contamination source located at a major VOC emitting facility that has the potential to emit less than 1 TPY of VOC.

(d) This section and §§ 129.97—129.100 do not apply to the owner and operator of a facility which is not a major NO\textsubscript{x} emitting facility or a major VOC emitting facility on or before January 1, 2017.

Authority

The provisions of this § 129.96 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source


Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NO\textsubscript{x} emissions averaging plan general requirements); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); and 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements).

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.

(a) The owner and operator of a source listed in one or more of subsections (b)—(h) located at a major NO\textsubscript{x} emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) or § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):

(1) January 1, 2017, for a source subject to § 129.96(a).

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(2) January 1, 2017, or 1 year after the date the source meets the definition of a major NO\textsubscript{x} emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(b) The owner and operator of a source specified in this subsection, which is located at a major NO\textsubscript{x} emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the following:

(1) The presumptive RACT requirement for a combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour, which is the performance of a biennial tune-up conducted in accordance with the procedures in 40 CFR 63.11223 (relating to how do I demonstrate continuous compliance with the work practice and management practice standards). The biennial tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO\textsubscript{x} and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.
(2) The owner or operator of a combustion unit with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up shall conduct a tune-up of the boiler one time in each 5-year calendar period. The tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO\textsubscript{x} and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(3) The applicable recordkeeping requirements of § 129.100(d), (e) or (f) (relating to compliance demonstration and recordkeeping requirements).

(c) The owner and operator of a source specified in this subsection, which is located at a major NO\textsubscript{x} emitting facility or major VOC emitting facility subject to § 129.96 shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices:

1. A NO\textsubscript{x} air contamination source that has the potential to emit less than 5 TPY of NO\textsubscript{x}.

2. A VOC air contamination source that has the potential to emit less than 2.7 TPY of VOC.

3. A boiler or other combustion source with an individual rated gross heat input less than 20 million Btu/hour.

4. A combustion turbine with a rated output less than 1,000 bhp.

5. A stationary internal combustion engine rated at less than 500 bhp (gross).

6. An incinerator, thermal oxidizer or catalytic oxidizer used primarily for air pollution control.

7. A fuel-burning unit with an annual capacity factor of less than 5%.

   (i) For a combustion unit, the annual capacity factor is the ratio of the unit’s heat input (in million Btu or equivalent units of measure) to the unit’s maximum rated hourly heat input rate (in million Btu/hour or equivalent units of measure) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

   (ii) For an electric generating unit, the annual capacity factor is the ratio of the unit’s actual electric output (expressed in MWe/hr) to the unit’s nameplate capacity (or maximum observed hourly gross load (in MWe/hr) if greater than the nameplate capacity) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

   (iii) For any other unit, the annual capacity factor is the ratio of the unit’s actual operating level to the unit’s potential operating level during a period of 12 consecutive calendar months.

8. An emergency standby engine operating less than 500 hours in a 12-month rolling period.

(d) Except as specified under subsection (c), the owner and operator of a combustion unit or other combustion source located at a major VOC emitting...
facility subject to § 129.96 shall install, maintain and operate the source in
accordance with the manufacturer’s specifications and with good operating prac-
tices for the control of the VOC emissions from the combustion unit or other
combustion source.

(e) The owner and operator of a municipal solid waste landfill subject to
§ 129.96 shall comply with the following applicable presumptive RACT require-
ment:

(1) For a municipal solid waste landfill constructed on or before May 30,
1991, emission guidelines and compliance times in 40 CFR Part 60, Subpart Cc
(relating to emission guidelines and compliance times for municipal solid waste
landfills), which are adopted and incorporated by reference in § 122.3 (relat-
ing to adoption of standards), and applicable Federal or state plans in 40 CFR
Part 62 (relating to approval and promulgation of state plans for designated
facilities and pollutants).

(2) For a municipal solid waste landfill constructed after May 30, 1991,
New Source Performance Standards in 40 CFR Part 60, Subpart WWW (relat-
ing to standards of performance for municipal solid waste landfills), which are
adopted and incorporated by reference in § 122.3.

(f) The owner and operator of a municipal waste combustor subject to
§ 129.96 shall comply with the presumptive RACT requirement of 180 ppmvd
NOx @ 7% oxygen.

(g) Except as specified under subsection (c), the owner and operator of a NOx
air contamination source specified in this subsection, which is located at a major
NOx emitting facility or a VOC air contamination source specified in this subsec-
tion, which is located at a major VOC emitting facility subject to § 129.96 may
not cause, allow or permit NOx or VOCs to be emitted from the air contamina-
tion source in excess of the applicable presumptive RACT emission limitation:

(1) A combustion unit or process heater:

(i) For a natural gas-fired combustion unit or process heater with a
rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NOx/

(ii) For a distillate oil-fired combustion unit or process heater with a
rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NOx/

(iii) For a residual oil-fired or other liquid fuel-fired combustion unit or
process heater with a rated heat input equal to or greater than 50 million
Btu/hour, 0.20 lb NOx/million Btu heat input.

(iv) For a refinery gas-fired combustion unit or process heater with a
rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NOx/

(v) For a coal-fired combustion unit with a rated heat input equal to or
greater than 50 million Btu/hour and less than 250 million Btu/hour, 0.45 lb
NOx/million Btu heat input.

(vi) For a coal-fired combustion unit with a rated heat input equal to or
greater than 250 million Btu/hour that is:

(A) A circulating fluidized bed combustion unit, 0.16 lb NOx/million
Btu heat input.

(B) A tangentially fired combustion unit, 0.35 lb NOx/million Btu heat
input.
(C) Any other type of coal-fired combustion unit, 0.40 lb NOx/million Btu heat input.
(vii) For any other type of solid fuel-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NOx/million Btu heat input.
(viii) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NOx/million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system.
(ix) For a coal-fired combustion unit with a selective noncatalytic reduction system, the selective noncatalytic reduction system shall be operated with the injection of reagents including ammonia or other NOx-reducing agents when the temperature at the area of the reagent injection is equal to or greater than 1,600°F.

(2) A combustion turbine:
(i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:
    (A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NOx @ 15% oxygen.
    (B) Fuel oil, 96 ppmvd NOx @ 15% oxygen.
    (C) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.
    (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.
(ii) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 180 MW when firing:
    (A) Natural gas or a noncommercial gaseous fuel, 4 ppmvd NOx @ 15% oxygen.
    (B) Fuel oil, 8 ppmvd NOx @ 15% oxygen.
    (C) Natural gas or a noncommercial gaseous fuel, 2 ppmvd VOC (as propane) @ 15% oxygen.
    (D) Fuel oil, 2 ppmvd VOC (as propane) @ 15% oxygen.
(iii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 6,000 bhp when firing:
    (A) Natural gas or a noncommercial gaseous fuel, 150 ppmvd NOx @ 15% oxygen.
    (B) Fuel oil, 150 ppmvd NOx @ 15% oxygen.
    (C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.
    (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.
(iv) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:
    (A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NOx @ 15% oxygen.
    (B) Fuel oil, 96 ppmvd NOx @ 15% oxygen.
    (C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.
    (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.
(3) A stationary internal combustion engine:
   (i) For a lean burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:
      (A) Natural gas or a noncommercial gaseous fuel, 3.0 grams NO\(_x\)/bhp-hr.
      (B) Natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel, 1.0 gram VOC/bhp-hr excluding formaldehyde.
   (ii) For a stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with liquid fuel or dual-fuel, 8.0 grams NO\(_x\)/bhp-hr.
   (iii) For a rich burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:
      (A) Natural gas or a noncommercial gaseous fuel, 2.0 grams NO\(_x\)/bhp-hr.
      (B) Natural gas or a noncommercial gaseous fuel, 1.0 gram VOC/bhp-hr.

(4) A unit firing multiple fuels:
   (i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

\[
E_{\text{H weighted}} = \frac{\sum_{i=1}^{n} E_i H_i}{\sum_{i=1}^{n} H_i}
\]

Where:
- \(E_{\text{H weighted}}\) = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.
- \(E_i\) = The emission rate or emission limit for fuel \(i\) during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.
- \(H_i\) = The total heat input for fuel \(i\) during the compliance period.
- \(n\) = The number of different fuels used during the compliance period.

   (ii) A fuel representing less than 1% of the unit’s annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).

   (iii) The determination in subparagraph (i) does not apply to a stationary internal combustion engine that is subject to the RACT emission limits in paragraph (3).

(h) The owner and operator of a Portland cement kiln subject to § 129.96 shall comply with the following applicable presumptive RACT emission limitation:

   (1) 3.88 pounds of NO\(_x\) per ton of clinker produced for a long wet-process cement kiln as defined in § 145.142 (relating to definitions).
   (2) 3.44 pounds of NO\(_x\) per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.
   (3) 2.36 pounds of NO\(_x\) per ton of clinker produced for:
      (i) A preheater cement kiln as defined in § 145.142.
      (ii) A precalciner cement kiln as defined in § 145.142.
(i) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(h) prior to April 23, 2016, under §§ 129.91—129.95 (relating to stationary sources of NO\textsubscript{x} and VOCs) to control, reduce or minimize NO\textsubscript{x} emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.

(j) The requirements and emission limitations of this section supersede the requirements and emission limitations of §§ 129.201—129.205, 145.111—145.113 and 145.141—145.146 (relating to additional NO\textsubscript{x} requirements; emissions of NO\textsubscript{x} from stationary internal combustion engines; and emissions of NO\textsubscript{x} from cement manufacturing) unless the requirements or emission limitations of §§ 129.201—129.205, §§ 145.111—145.113 or §§ 145.141—145.146 are more stringent.

(k) The owner or operator of a major NO\textsubscript{x} emitting facility or a major VOC emitting facility subject to § 129.96 that includes an air contamination source subject to one or more of subsections (b)—(h) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation without installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

1. (i) The written petition shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:
   (i) October 24, 2016, for a source subject to § 129.96(a).
   (ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO\textsubscript{x} emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

2. (i) The written petition must include:
   (i) A description, including make, model and location, of each affected source subject to a RACT requirement or a RACT emission limitation in one or more of subsections (b)—(h).
   (ii) A description of the proposed air cleaning device to be installed.
   (iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).
   (iv) A proposed interim emission limitation that will be imposed on the affected source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.
   (v) A proposed final compliance date that is as soon as possible but not later than 3 years after the written approval of the petition by the Department or the appropriate approved local air pollution control agency. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(l) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (k) and approve or deny the petition in writing.

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(m) Approval or denial under subsection (l) of the timely and complete petition for an alternative compliance schedule submitted under subsection (k) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

Authority
The provisions of this § 129.97 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source
The provisions of this § 129.97 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (384192) to (384193) and (380507) to (380512).

Cross References
This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NOx emissions averaging plan general requirements); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); and 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements).

§ 129.98. Facility-wide or system-wide NOx emissions averaging plan general requirements.
(a) The owner or operator of a major NOx emitting facility subject to § 129.96 (relating to applicability) that includes at least one air contamination source subject to a NOx RACT emission limitation in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NOx RACT emission limitation may elect to meet the applicable NOx RACT emission limitation on a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth.
(b) The owner or operator of each facility that elects to comply with subsection (a) shall submit a written NOx emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section shall be submitted by the applicable date as follows:
(1) October 24, 2016, for a source subject to § 129.96(a).
(2) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOx emitting facility, whichever is later, for a source subject to § 129.96(b).
(c) Each NOx air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NOx emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must be an air contamination source subject to a NOx RACT emission limitation in § 129.97.
(d) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NOx emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under sub-
section (b) must demonstrate that the aggregate NO\textsubscript{x} emissions emitted by the air contamination sources included in the facility-wide or system-wide NO\textsubscript{x} emissions averaging plan using a 30-day rolling average are not greater than the NO\textsubscript{x} emissions that would be emitted by the group of included sources if each source complied with the applicable NO\textsubscript{x} RACT emission limitation in § 129.97 on a source-specific basis.

(e) The owner or operator shall calculate the alternative facility-wide or system-wide NO\textsubscript{x} RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under subsection (b) by using the following equation to sum the emissions for all of the sources included in the NO\textsubscript{x} emissions averaging plan:

\[ \sum_{i=1}^{n} E_{i,\text{actual}} \leq \sum_{i=1}^{n} E_{i,\text{allowable}} \]

Where:

- \( E_{i,\text{actual}} \) = The actual NO\textsubscript{x} mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source \( i \) on a 30-day rolling basis.
- \( E_{i,\text{allowable}} \) = The allowable NO\textsubscript{x} mass emissions computed using the allowable emission rate limitations for air contamination source \( i \) on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO\textsubscript{x} mass emissions.

\( n \) = The number of air contamination sources included in the NO\textsubscript{x} emissions averaging plan.

(f) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(e) may include facility-wide or system-wide NO\textsubscript{x} emissions averaging using a 30-day rolling average only for NO\textsubscript{x} emitting sources or NO\textsubscript{x} emitting facilities that are owned or operated by the applicant.

(g) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(f) must include the following information:

1. Identification of each air contamination source included in the NO\textsubscript{x} emissions averaging plan.
2. Each air contamination source’s applicable emission limitation in § 129.97.
3. Methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each source included in the NO\textsubscript{x} emissions averaging plan submitted under subsection (b).

(h) An air contamination source or facility included in the facility-wide or system-wide NO\textsubscript{x} emissions averaging plan submitted in accordance with subsections (b)—(g) may be included in only one facility-wide or system-wide NO\textsubscript{x} emissions averaging plan.
(i) The Department or appropriate approved local air pollution control agency will issue a modification to the operating permit or a plan approval authorizing the NOx emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NOx emissions averaging plan submitted in accordance with subsections (b)—(h) shall submit the reports and records specified in subsection (g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in subsection (g)(3) to demonstrate compliance with § 129.100.

(k) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NOx emissions averaging plan submitted in accordance with subsections (b)—(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NOx RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NOx emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under subsection (b).

(l) The owner or operator of an air contamination source subject to a NOx RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NOx emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NOx RACT emission limitation in § 129.97.

(m) The owner and operator of the air contamination sources included in a facility-wide or system-wide NOx emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NOx RACT emission limitation at each source included in the NOx emissions averaging plan.

Authority
The provisions of this § 129.98 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source
The provisions of this § 129.98 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036.

Cross References
This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements).

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule.
(a) The owner or operator of an air contamination source subject to § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) located at a major NOx emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation of § 129.97 may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d).

(b) The owner or operator of a NOx air contamination source with a potential emission rate equal to or greater than 5.0 tons of NOx per year that is not subject

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to § 129.97 or §§ 129.201—129.205 (relating to additional NOₓ requirements) located at a major NOₓ emitting facility subject to § 129.96 shall propose a NOₓ RACT requirement or RACT emission limitation in accordance with subsection (d).

(c) The owner or operator of a VOC air contamination source with a potential emission rate equal to or greater than 2.7 tons of VOC per year that is not subject to § 129.97 located at a major VOC emitting facility subject to § 129.96 shall propose a VOC RACT requirement or RACT emission limitation in accordance with subsection (d).

(d) The owner or operator proposing an alternative RACT requirement or RACT emission limitation under subsection (a), (b) or (c) shall:

1. Submit a written RACT proposal in accordance with the procedures in § 129.92(a)(1)—(5), (7)—(10) and (b) (relating to RACT proposal requirements) to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:
   (i) October 24, 2016, for a source subject to § 129.96(a).
   (ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOₓ emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

2. Be in receipt of an approval issued by the Department or appropriate approved local air pollution control agency in writing through a plan approval or operating permit modification for a RACT proposal submitted under paragraph (1)(ii) prior to the installation, modification or change in the operation of the existing air contamination source that will result in the source or facility meeting the definition of a major NOₓ emitting facility or major VOC emitting facility.

3. Include in the RACT proposal the proposed alternative NOₓ RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation developed in accordance with the procedures in § 129.92(a)(1)—(5) and (b).

4. Include in the RACT proposal a schedule for completing implementation of the RACT requirement or RACT emission limitation as soon as possible but not later than:
   (i) January 1, 2017, for a source subject to § 129.96(a).
   (ii) January 1, 2017, or 1 year after the date that the source meets the definition of a major NOₓ emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

5. Include interim dates in the schedule required under paragraph (4) for the:
   (i) Issuance of purchase orders.
   (ii) Start and completion of process, technology and control technology changes.
   (iii) Completion of compliance testing.

6. Include in the RACT proposal methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each air contamination source included in the RACT proposal.

7. Demonstrate to the satisfaction of the Department or the appropriate approved local air pollution control agency that the proposed requirement or RACT emission limitation is RACT for the air contamination source.
(e) The Department or appropriate approved local air pollution control agency will:

(1) Review the timely and complete alternative RACT proposal submitted in accordance with subsection (d).

(2) Approve the alternative RACT proposal submitted under subsection (d), in writing, if the Department or appropriate approved local air pollution control agency is satisfied that the alternative RACT proposal complies with the requirements of subsection (d) and that the proposed alternative requirement or RACT emission limitation is RACT for the air contamination source.

(3) Deny or modify the alternative RACT proposal submitted under subsection (d), in writing, if the proposal does not comply with the requirements of subsection (d).

(f) The proposed alternative RACT requirement or RACT emission limitation and the implementation schedule submitted under subsection (d) will be approved, denied or modified by the Department or appropriate approved local air pollution control agency in accordance with subsection (e) in writing through the issuance of a plan approval or operating permit modification prior to the owner or operator implementing the alternative RACT requirement or RACT emission limitation.

(g) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(h) The Department will submit each alternative RACT requirement or RACT emission limitation approved under subsection (f) to the Administrator of the EPA for approval as a revision to the SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

(i) The owner and operator of a facility proposing to comply with the applicable RACT requirement or RACT emission limitation under subsection (a), (b) or (c) through the installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition requesting an alternative compliance schedule shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

   (i) October 24, 2016, for a source subject to § 129.96(a).

   (ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The written petition must include:

   (i) A description, including make, model and location, of each air contamination source subject to a RACT requirement or RACT emission limitation in one or more of subsections (a)—(c).

   (ii) A description of the proposed air cleaning device to be installed.
(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected air contamination source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition by the Department or the appropriate approved local air pollution control agency. If the petition is for the replacement of an existing source, the final compliance date will be determined on a case-by-case basis. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(j) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (i) and approve or deny the petition in writing.

(k) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(l) Approval or denial under subsection (j) of the timely and complete petition for an alternative compliance schedule submitted under subsection (i) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

Authority

The provisions of this § 129.99 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source


Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); and 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements).

§ 129.100. Compliance demonstration and recordkeeping requirements.

(a) Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NOx RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:
(1) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.
   (i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:
      (A) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.
      (B) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.
      (C) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.
   (ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.
      (iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.
(2) For a Portland cement kiln with a CEMS, monitoring of clinker production rates in accordance with 40 CFR 63.1350(d) (relating to monitoring requirements).
(3) For a municipal waste combustor with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.
(4) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.
(b) Except as provided in § 129.97(k) and § 129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) not later than:
   (1) January 1, 2017, for a source subject to § 129.96(a) (relating to applicability).
   (2) January 1, 2017, or 1 year after the date that the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).
(c) An owner or operator of an air contamination source subject to this section, §§ 129.96 and 129.97 and § 129.98 (relating to facility-wide or system-wide NOx emissions averaging plan general requirements) may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation listed in § 129.97 if the following requirements are met:
   (1) The request for a waiver is submitted, in writing, to the Department not later than:
(i) October 24, 2016, for a source subject to § 129.96(a).
(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO\textsubscript{x} emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The request for a waiver demonstrates that a Department-approved emissions source test was performed in accordance with the requirements of Chapter 139, Subchapter A, on or after:
   (i) April 23, 2015, for a source subject to § 129.96(a).
   (ii) April 23, 2015, or within 12 months prior to the date that the source meets the definition of a major NO\textsubscript{x} emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(3) The request for a waiver demonstrates to the satisfaction of the Department that the test results show that the source’s rate of emissions is in compliance with the source’s applicable NO\textsubscript{x} emission limitation or VOC emission limitation.

(4) The Department approves, in writing, the request for a waiver.

(d) The owner and operator of an air contamination source subject to this section and §§ 129.96—129.99 shall keep records to demonstrate compliance with §§ 129.96—129.99 in the following manner:

   (1) The records must include sufficient data and calculations to demonstrate that the requirements of §§ 129.96—129.99 are met.
   (2) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

(e) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable NO\textsubscript{x} emission rate threshold specified in § 129.99(b) and the requirements of § 129.97 based on the air contamination source’s potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(f) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable VOC emission rate threshold specified in § 129.99(c) and the requirements of § 129.97 based on the air contamination source’s potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(g) The owner or operator of a combustion unit subject to § 129.97(b) shall record each adjustment conducted under the procedures in § 129.97(b). This record must contain, at a minimum:

   (1) The date of the tuning procedure.
   (2) The name of the service company and the technician performing the procedure.
   (3) The final operating rate or load.
   (4) The final NO\textsubscript{x} and CO emission rates.
   (5) The final excess oxygen rate.
   (6) Other information required by the applicable operating permit.
(h) The owner or operator of a Portland cement kiln subject to § 129.97(h) shall maintain a daily operating log for each Portland cement kiln. The record for each kiln must include:
   (1) The total hours of operation.
   (2) The type and quantity of fuel used.
   (3) The quantity of clinker produced.
   (4) The date, time and duration of a start-up, shutdown or malfunction of
       a Portland cement kiln or emissions monitoring system.
   (i) The records shall be retained by the owner or operator for 5 years and
       made available to the Department or appropriate approved local air pollution
       control agency upon receipt of a written request from the Department or appro-
       priate approved local air pollution control agency.

Authority

The provisions of this § 129.100 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

Source

The provisions of this § 129.100 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (380517) to (380520).

Cross References

The section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NOx emissions averaging plan general requirements); and 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule).

WOOD FURNITURE MANUFACTURING OPERATIONS

§ 129.101. General provisions and applicability.

(a) Beginning June 10, 2000, this section and §§ 129.102—129.107 apply to each wood furniture manufacturing facility located in a county included in the northeast ozone transport region or in a county designated as severe, serious, moderate or marginal ozone nonattainment that emits or has the potential to emit 25 tons or more per year of VOCs from wood furniture manufacturing operations.

(b) The owner or operator of an existing wood furniture manufacturing facility subject to subsection (a) shall comply with this section and §§ 129.102—129.107 by June 11, 2001, except for those facilities which have RACT determinations approved by the EPA as revisions to the SIP prior to June 10, 2000.

(c) An existing wood furniture manufacturing facility that increases its actual emissions or potential to emit to 25 tons per year or more of VOCs from wood furniture manufacturing operations shall comply with this section and §§ 129.102—129.107 within 1 year after becoming subject to subsection (a), except for those facilities which have RACT determinations approved by the EPA as revisions to the SIP prior to June 10, 2000.

(d) At a minimum, a new source installed at an existing facility that is subject to the requirements of subsection (a) shall comply with the emission standards of § 129.102 (relating to emission standards) upon installation of the new source.

(e) The owner or operator of a wood furniture manufacturing facility subject to this section, §§ 129.52 and 129.102—129.107 shall comply with the more
§ 129.102. Emission standards.

An owner or operator of a facility subject to this section, §§ 129.101 and 129.103—129.107 shall limit VOC emissions from wood furniture manufacturing operations by:

1. Applying either waterborne topcoats or a combination of sealers and topcoats and strippable spray booth coatings with a VOC content equal to or less than the standards specified in Table IV:

   129-145

   (380521) No. 500 Jul. 16
Table IV
Emission Limits of VOC for Wood Furniture Manufacturing Sealers, Topcoats and Strippable Spray Booth Coatings As Applied, in Pounds of VOC Per Pound of Coating Solids (kg VOC/kg of Coating Solids), by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Limit (lb VOC/lb solids)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Waterborne Topcoats</td>
<td>0.8</td>
</tr>
<tr>
<td>(2) High solids coating systems</td>
<td></td>
</tr>
<tr>
<td>Sealer</td>
<td>1.9</td>
</tr>
<tr>
<td>Topcoat</td>
<td>1.8</td>
</tr>
<tr>
<td>(3) Acid-cured alkyd amino systems</td>
<td></td>
</tr>
<tr>
<td>(i) Acid-cured alkyd amino sealer</td>
<td>2.3</td>
</tr>
<tr>
<td>Acid-cured alkyd amino conversion varnish topcoat</td>
<td>2.0</td>
</tr>
<tr>
<td>(ii) Other sealer</td>
<td>1.9</td>
</tr>
<tr>
<td>Acid-cured alkyd amino conversion varnish topcoat</td>
<td>2.0</td>
</tr>
<tr>
<td>(iii) Acid-cured alkyd amino sealer</td>
<td>2.3</td>
</tr>
<tr>
<td>Other topcoat</td>
<td>1.8</td>
</tr>
<tr>
<td>(4) Waterborne strippable spray booth coating</td>
<td>0.8</td>
</tr>
</tbody>
</table>

(2) Using an emissions averaging program which meets the requirements in § 129.107 (relating to special provisions for facilities using an emissions averaging approach).

(3) Using a control system that will achieve a reduction in emissions equivalent to 0.8 lb VOC/lb solids for topcoats or 1.8 lbs VOC/lb solids for topcoats and 1.9 lbs VOC/lb solids for sealers.

(4) Using a combination of the methods specified in paragraphs (1)—(3).

Authority
The provisions of this § 129.102 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source
The provisions of this § 129.102 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

Cross References

§ 129.103. Work practice standards.
(a) Work practice implementation plan. Within 60 days after the compliance date specified in § 129.101(b) or (c) (relating to general provisions and applica-
(b) Prepare and maintain a written work practice implementation plan that
defines work practices for each wood furniture manufacturing operation and
addresses the provisions in subsections (b)—(j). The owner or operator of the
facility shall comply with the work practice implementation plan.

(2) Make available the written work practice implementation plan for
inspection by the Department upon request. If the Department determines that
the work practice implementation plan does not adequately address the criteria
specified in subsections (b)—(j), the Department may require that the facility
owner or operator modify the plan.

(b) Operator training program. New and existing personnel, including con-
tract personnel, who are involved in coating, cleaning or washoff operations or
implementation of the requirements of this section, §§ 129.101, 129.102 and
129.104—129.107 shall complete an operator training program.

(1) For a facility subject to § 129.101(b), new personnel hired after June
10, 2000, shall be trained upon hiring. For a facility subject to the requirements
of § 129.101(c), new personnel shall be trained upon hiring.

(2) For a facility subject to § 129.101(b), existing personnel hired before
June 10, 2000, shall be trained by December 11, 2000. For a facility subject to
§ 129.101(c), existing personnel shall be trained at least 6 months before the
compliance date.

(3) Personnel shall be given refresher training annually.

(4) A copy of the written operator training program shall be maintained
with the work practice implementation plan. The operator training program
shall include the following:

(i) A list of all current personnel by name and job description that are
required to be trained.

(ii) An outline of the subjects to be covered in the initial and annual
refresher training sessions for each position or group of personnel.

(iii) Lesson plans for courses to be given at the initial and annual
refresher training sessions that include, at a minimum, appropriate applica-
tion techniques, appropriate cleaning and washoff procedures, appropriate
equipment setup and adjustment to minimize coating usage and overspray
and appropriate management of cleanup wastes.

(iv) A description of the methods to be used at the completion of the
initial or annual refresher training sessions to demonstrate and document
successful completion.

(v) A record of the date each employe is trained.

(c) Leak inspection and maintenance plan. An owner or operator of a facility
shall prepare and maintain with the work practice implementation plan a written
leak inspection and maintenance plan which shall include the following:
(1) A minimum visual inspection frequency of once per month for all equipment used to transfer or apply coatings or solvents.

(2) An inspection schedule.

(3) The methods for documenting the date and results of each inspection and any repairs that were made.

(4) The time frame between identifying a leak and making the repair, which shall adhere to the following schedule:
   (i) A first attempt at repairs, including tightening of packing glands, shall be made within 5 working days after the leak is detected.
   (ii) Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

(d) Cleaning and washoff solvent accounting system. A solvent accounting form shall be developed to account for solvents used in cleaning and washoff operations. The information recorded on the form shall include the following:
   (1) The total number of pieces processed through washoff operations each month and the reason for the washoff operations.
   (2) The name and total quantity of each solvent used each month for:
      (i) Cleaning activities.
      (ii) Washoff operations.
   (3) The name and total quantity of each solvent evaporated to the atmosphere each month from:
      (i) Cleaning activities.
      (ii) Washoff operations.

(e) Spray booth cleaning. An owner or operator of a facility may not use compounds containing more than 8.0% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the facility shall use no more than 1.0 gallon of solvent to prepare the booth prior to applying the booth coating.

(f) Storage requirements. An owner or operator of a facility shall use normally closed containers for storing coating, cleaning and washoff materials.

(g) Application equipment requirements. An owner or operator of a facility may not use conventional air spray guns to apply coatings except under any of the following circumstances:
   (1) To apply coatings that have a VOC content no greater than 1.0 lb VOC/lb solids (1.0 kg VOC/kg solids), as applied.
   (2) For touch-up and repair coatings under one of the following circumstances:
      (i) The coatings are applied after completion of the wood furniture manufacturing operation.
(ii) The coatings are applied after the stain and before any other type of coating is applied, and the coatings are applied from a container that has a volume of no more than 2.0 gallons.

(3) The spray is automated, that is, the spray gun is aimed and triggered automatically, not manually.

(4) The emissions from the surface coating process are directed to a VOC control system.

(5) The conventional air spray gun is used to apply coatings and the cumulative total usage of those coatings is no more than 5.0% of the total gallons of coating used during each semiannual reporting period.

(6) The conventional air spray gun is used to apply stain on a part for which the Department notifies the operator, in writing, of its determination that it is technically or economically infeasible to use any other spray application technology. To support the facility’s claim of technical or economic infeasibility, a videotape, a technical report or other documentation shall be submitted to the Department showing either independently or in combination, the following:
   (i) The production speed is too high or the part shape is too complex for one operator to coat the part, and the application station is not large enough to accommodate an additional operator.
   (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

(h) Line cleaning. The solvent used for line cleaning shall be pumped or drained into a normally closed container.

(i) Spray gun cleaning. The solvent used to clean spray guns shall be collected into a normally closed container.

(j) Washoff operations. The emissions from washoff operations shall be controlled by the following:
   (1) Using normally closed containers for washoff operations.
   (2) Minimizing dripping by tilting or rotating the part to drain as much solvent as possible.

Authority

The provisions of this § 129.103 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source

The provisions of this § 129.103 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NOx and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.104 (relating to compliance proce-
§ 129.104. Compliance procedures and monitoring requirements.

(a) Compliance methods. An owner or operator of a facility subject to the emission standards in § 129.102 (relating to emission standards) shall demonstrate compliance with those provisions by using one or more of the following methods:

(1) To support that each sealer, topcoat and strippable spray booth coating meets the requirements of § 129.102(1) (relating to emission standards):
   (i) Maintain CPDSs for each of the coatings.
   (ii) Maintain documentation showing the VOC content of the as applied coating in lbs VOC/lb solids, if solvent or other VOC is added to the coating before application.
   (iii) Perform sampling and testing in accordance with the procedures and test methods in Chapter 139 (relating to sampling and testing).

(2) To comply through the use of a control system as described in § 129.102(3):
   (i) Calculate the required overall control efficiency needed to demonstrate compliance using the following equation:
   
   $$O = \left(1 - \frac{E}{C}\right) \times 100$$

   Where:
   - $C$ = the VOC content of the as applied coating, lbs VOC/lb solids
   - $E$ = the Table IV emission limit which shall be achieved by the affected emission point(s), lbs VOC/lb solids
   - $O$ = the overall control efficiency of the control system, expressed as a percentage
   (ii) Document that the value of $C$ in the equation in subparagraph (i) is obtained from the VOC and solids content of the as applied coating.
   (iii) Determine the overall control efficiency of the control system using the procedures and test methods in Chapter 139 and demonstrate that the value of $O$ calculated by the following equation is equal to or greater than the value of $O$ calculated by the equation in subparagraph (i):

   $$O = \left(F \times N\right) (100)$$

   Where:
   - $F$ = the control device efficiency, expressed as a fraction
   - $N$ = the capture device efficiency, expressed as a fraction

(b) Initial compliance.

(1) Compliant coatings. An owner or operator of a facility subject to § 129.102(1) that is complying through the procedures in subsection (a)(1) shall submit an initial compliance status report as required by § 129.106(a)
(relating to reporting requirements), stating that compliant sealers, topcoats and strippable spray booth coatings are being used by the facility.

(2) Continuous coaters. An owner or operator of a facility subject to § 129.102(1) that is complying through the procedures in subsection (a)(1) and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate initial compliance by either:

(i) Submitting an initial compliance status report as required by § 129.106(a) stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir and as calculated from records, are being used.

(ii) Submitting an initial compliance status report as required by § 129.106(a) stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, are being used and the viscosity of the coating in the reservoir is being monitored. The facility shall also provide data that demonstrates the correlation between the viscosity and the VOC content of the coating in the reservoir.

(3) Control systems. An owner or operator of a facility using a control system to comply with this section and §§ 129.101—129.103 and 129.105—129.107 shall demonstrate initial compliance by submitting a report to the Department that:

(i) Identifies the operating parameter value to be monitored for the capture device and discusses why the parameter is appropriate for demonstrating ongoing compliance.

(ii) Includes the results of the initial performance testing using the procedures and test methods specified in Chapter 139.

(iii) Includes calculations of the overall control efficiency (O) using the equation in subsection (a)(2)(iii).

(iv) Defines those operating conditions of the control system critical to determining compliance and establishes operating parameter values that will ensure compliance with the standard:

(A) For compliance with a thermal incinerator, minimum combustion temperature shall be the operating parameter value.

(B) For compliance with another control system, the operating parameter value shall be established using the procedures identified in subsection (c)(3)(iv).

(v) An owner or operator of a facility complying with this paragraph shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, using the procedures in Chapter 139.

(4) Work practice implementation plan. An owner or operator of a facility subject to the work practice standards of § 129.103 (relating to work practice standards) shall submit an initial compliance status report as required by
§ 129.106(a), stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

(c) Continuous compliance demonstrations. An owner or operator of a facility subject to the requirements of this section and §§ 129.101—129.103 and 129.105—129.107 shall submit, in writing, to the Department a compliance certification with the semiannual report required by § 129.106(b).

(1) Compliant coatings. An owner or operator of a facility subject to § 129.102 that is complying through the procedures specified in subsection (a)(1) shall demonstrate continuous compliance by the following:

(i) Using compliant coatings.

(ii) Maintaining records that demonstrate the coatings are compliant.

(iii) Submitting a compliance certification which states that compliant sealers, topcoats, or both, and strippable spray booth coatings have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(2) Continuous coaters. An owner or operator of a facility subject to § 129.102 that is complying through the procedures specified in subsection (a)(1) and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate continuous compliance by either:

(i) Using compliant coatings as determined by the VOC content of the coating in the reservoir and as calculated from records, and submitting a compliance certification which states that compliant sealers, topcoats, or both, have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(ii) Using compliant coatings, as determined by the VOC content of the coating in the reservoir, maintaining a viscosity of the coating in the reservoir that is no less than the viscosity of the initial coating by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial coating and retesting the viscosity of the coating in the reservoir each time solvent is added, maintaining records of solvent additions and submitting a compliance certification which states that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, have been used each day in the semiannual reporting period. Additionally, the certification shall state that the viscosity of the coating in the reservoir has not been less than the viscosity of the initial coating, that is, the coating that is initially mixed and placed in the reservoir, for any day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(3) Control systems. An owner or operator of a facility subject to § 129.102 that is complying through the use of a control system shall demonstrate continuous compliance by the following:
(i) Installing, calibrating, maintaining and operating monitoring equipment approved, in writing, by the Department.

(ii) Using a device to monitor the site-specific operating parameter value established in accordance with subsection (b)(3)(i).

(iii) When a thermal incinerator is used, a temperature monitoring device equipped with a continuous recorder is required and shall be installed in the firebox or in the ductwork immediately downstream of the firebox at a location before any substantial heat exchange occurs.

(iv) An owner or operator using a control system not listed in this section shall submit, in writing, to the Department a description of the system, test data verifying the performance of the system, the appropriate operating parameter values that will be monitored and the monitoring device that will be used to demonstrate continuous compliance with the standard and receive, in writing, the Department’s approval prior to use.

(v) An owner or operator of a facility may not operate the control system at a daily average value greater than or less than (as appropriate) the operating parameter value. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

(vi) Submitting a compliance certification which states that the control system has not been operated at a daily average value greater than or less than (as appropriate) the operating parameter value for each day in the semi-annual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(4) Work practice implementation plan. An owner or operator of a facility subject to the work practice standards of § 129.103 shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification which states that the work practice implementation plan is being followed, or should otherwise identify the periods of noncompliance with the work practice standards and the reasons for noncompliance.

(d) Compliance certification requirements. The compliance certification shall be signed by a responsible official of the company that owns or operates the facility. In addition to the certification requirements of this section, the certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate and complete.

Authority

The provisions of this § 129.104 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

129-153

(380529) No. 500 Jul. 16
§ 129.105. Recordkeeping requirements.

(a) **Requirement.** The owner or operator of a wood furniture manufacturing operation shall keep records to demonstrate compliance with this section and §§ 129.101—129.104, 129.106 and 129.107. The records shall be maintained for at least 5 years.

(b) **Compliant coatings.** The following records shall be maintained to demonstrate compliance with § 129.102 (relating to emission standards).

   (1) A certified product data sheet for each coating and strippable spray booth coating subject to the emission limits of § 129.102.

   (2) The VOC content as applied, lbs VOC/lb solids (kg VOC/kg solids), of each coating and strippable spray booth coating subject to the emission limits of § 129.102, and copies of data sheets documenting how the as applied values were determined.

(c) **Continuous coaters.** The owner or operator of a facility subject to the emission limits of § 129.102 that is complying through the procedures specified in § 129.104(a)(1) (relating to compliance procedures and monitoring requirements) and is applying sealers, topcoats, or both, using continuous coaters shall maintain the records required by subsections (a) and (b) and records of the following:

   (1) Solvent and coating additions to the continuous coater reservoir.

   (2) Viscosity measurements.

(d) **Control systems.** The owner or operator of a facility complying through the procedures in § 129.104(a)(2) by using a control system shall maintain the following records:

   (1) Copies of the calculations to support the equivalency of using a control system, as well as the data that are necessary to support the calculation of C and E in § 129.104(a)(2)(i) and O in § 129.104(a)(2)(iii).

   (2) Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day.

(e) **Work practice implementation plan.** The owner or operator of a facility subject to the work practice standards of § 129.103 (relating to work practice standards) shall maintain onsite copies of the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including:
(1) Records demonstrating that the operator training program is in place.
(2) Records maintained in accordance with the leak inspection and maintenance plan.
(3) Records associated with the cleaning and washoff solvent accounting system.
(4) Records associated with the limitation on the use of conventional air spray guns showing total coating usage and the percentage of coatings applied with conventional air spray guns for each semiannual reporting period.
(5) Records showing the VOC content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures or metal filters.
(6) Copies of logs and other documentation developed to demonstrate that the other provisions of the work practice implementation plan are followed.
(f) In addition to the recordkeeping requirements of subsection (a), the owner or operator of a facility that complies with § 129.103 or § 129.104(a)(1) shall maintain a copy of the compliance certifications submitted in accordance with § 129.106(b) (relating to reporting requirements) for each semiannual period following the compliance date.
(g) The owner or operator of a facility shall maintain a copy of the other information submitted with the initial status report required by § 129.106(a) and the semiannual reports required by § 129.106(b).

Authority
The provisions of this § 129.105 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source
The provisions of this § 129.105 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

Cross References

§ 129.106. Reporting requirements.
(a) Initial compliance report date. The initial compliance report shall be submitted to the Department within 60 days after the compliance date specified in § 129.101(b) and (c) (relating to general provisions and applicability). The report shall include the items required by § 129.104(b) (relating to compliance procedures and monitoring requirements).
(b) **Semiannual compliance report dates.** When demonstrating compliance in accordance with § 129.104(a)(1) or (2), a semiannual report covering the previous 6 months of wood furniture manufacturing operations shall be submitted to the Department according to the following schedule:

1. The first report shall be submitted within 30 calendar days after the end of the first 6-month period following the compliance date specified in § 129.101(b) and (c).
2. Subsequent reports shall be submitted within 30 calendar days after the end of each 6-month period following the first report.
3. Each semiannual report shall include the information required by § 129.104(c) and (d), a statement of whether the facility was in compliance or noncompliance and, if the facility was in noncompliance, the measures taken to bring the facility into compliance.

**Authority**

The provisions of this § 129.106 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.106 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

**Cross References**


§ 129.107. Special provisions for facilities using an emissions averaging approach.

(a) **Emissions averaging approach.** An owner or operator of a facility subject to the emission limitations in § 129.102 (relating to emission standards) may use an emissions averaging approach which meets the equivalency requirements in § 129.51(a) (relating to general) to achieve compliance with § 129.52 (relating to surface coating processes) or this section and §§ 129.101—129.106.

(b) **Additional requirement.** When complying with the requirements of § 129.52 or this section and §§ 129.101—129.106 through emissions averaging, an additional 10% reduction in emissions shall be achieved when compared to a facility using a compliant coatings approach to meet the requirements of this section and §§ 129.101—129.106.

(c) **Program goals and rationale.** When using an emissions averaging program, the following shall be submitted to the Department in writing:

1. A summary of the reasons why the facility would like to comply with the emission limitations through an equivalency determination using emissions averaging procedures.
2. A summary of how averaging can be used to meet the emission limitations.
(d) Program scope. A description of the types of coatings that will be included in the facility’s emissions averaging program shall also be submitted to the Department in writing:

(1) Stains, basecoats, washcoats, sealers and topcoats may all be used in the emissions averaging program.

(2) The owner or operator of the facility may choose other coatings for its emissions averaging program, if the program meets the equivalency requirements in § 129.51(a).

(3) Coatings that are applied using continuous coaters may only be used in an emissions averaging program if the owner or operator of the facility can determine the amount of coating used each day.

(4) A daily averaging period shall be used, except under the following conditions:

(i) A longer averaging period may be used if the owner or operator of the facility demonstrates in writing to the satisfaction of the Department that the emissions do not fluctuate significantly on a day-to-day basis.

(ii) The owner or operator of the facility requests in writing and the Department approves in writing the longer averaging period.

(e) Program baseline. The baseline for each coating included in the emissions averaging program shall be the lower of the actual or allowable emission rate as of June 10, 2000. The facility baseline emission rate may not be higher than what was presumed in the 1990 emissions inventory for the facility unless the Department has accounted for the increase in emissions as growth.

(f) Quantification procedures. The emissions averaging program shall specify methods and procedures for quantifying emissions. Quantification procedures for VOC content are included in Chapter 139 (relating to sampling and testing). The quantification procedures shall also include methods to determine the usage of each coating and shall be accurate enough to ensure that the facility’s actual emissions are less than the allowable emissions.

(g) Monitoring, recordkeeping and reporting. A written summary of the monitoring, recordkeeping and reporting procedures that will be used to demonstrate compliance on a daily basis, when using an emissions averaging approach, shall be submitted to the Department.

(1) The monitoring, recordkeeping and reporting procedures shall be structured so that inspectors and facility owners or operators can determine a facility’s compliance status for any day.

(2) The monitoring, recordkeeping and reporting procedures shall include methods for determining required data when monitoring, recordkeeping and reporting violations result in missing, inadequate or erroneous monitoring and recordkeeping.
§ 129.201 Boilers.

(a) By May 1, 2005, and each year thereafter, the owner or operator of a boiler that meets the definition of a boiler in § 145.2 (relating to definitions) located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability).

This section does not apply to naval marine combustion units operated by the United States Navy for the purposes of testing and operational training or to units that combust municipal waste at a facility that is permitted as a resource recovery facility under Part I, Subpart D, Article VIII (relating to municipal waste).

(b) By October 31, 2005, and each year thereafter, the owner or operator of the boiler shall calculate the difference between the actual emissions from the unit for the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the unit’s cumulative heat input for the period by the applicable emission rate in paragraph (1) or (2).

(1) The emission rate for a boiler with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour shall be as follows:

(i) For a boiler firing natural gas or a boiler firing a noncommercial gaseous fuel, 0.10 pounds NO\textsubscript{x} per million Btu heat input.

(ii) For a boiler firing solid or liquid fuel, 0.20 pounds of NO\textsubscript{x} per million Btu heat input.

(2) The emission rate for a boiler with a nameplate rated capacity of greater than 250 million Btu/hour that is not subject to § 145.8(c) or (d) (relating to transition to CAIR NO\textsubscript{x} trading programs) shall be 0.17 pounds NO\textsubscript{x} per million Btu heat input.
Authority

The provisions of this § 129.201 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.204 (relating to emission accountability); and 25 Pa. Code § 145.8 (relating to transition to CAIR NOx trading programs).


(a) By May 1, 2005, and each year thereafter, the owner or operator of a stationary combustion turbine with a nameplate rated capacity of greater than 100 million Btu/hour located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability). This section does not apply to naval marine stationary combustion turbines operated by the United States Navy for the purposes of testing and operational training.

(b) By October 31, 2005, and each year thereafter, the owner or operator of the stationary combustion turbine shall calculate the difference between the actual emissions from the unit for the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the unit’s cumulative heat input for the period by the applicable emission rate set forth in paragraph (1) or (2).

(1) The emission rate for a stationary combustion turbine with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour heat input shall be as follows:

(i) A combined cycle or regenerative cycle stationary combustion turbine:

(A) When firing natural gas or a noncommercial gaseous fuel, 0.17 lbs NOx/MMBtu or 1.3 lbs NOx/MWH.

(B) When firing oil, 0.26 lbs NOx/MMBtu or 2.0 lbs NOx/MWH.

(ii) A simple cycle stationary combustion turbine:

(A) When firing natural gas or a noncommercial gaseous fuel, 0.20 lbs NOx/MMBtu or 2.2 lbs NOx/MWH.

(B) When firing oil, 0.30 lbs NOx/MMBtu or 3.0 lbs NOx/MWH.

(2) The emission rate for a stationary combustion turbine with a nameplate rated capacity of greater than 250 million Btu/hour heat input that is not sub-
§ 129.203. Stationary internal combustion engines.

(a) By May 1, 2005, the owner or operator of a stationary internal combustion engine rated at greater than 1,000 horsepower and located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability). This section does not apply to naval marine combustion units operated by the United States Navy for the purposes of testing and operational training or to stationary internal combustion engines regulated under Chapter 145, Subchapter B (relating to emissions of NOx from stationary internal combustion engines).

(b) By October 31, 2005, and each year thereafter, the owner or operator of the stationary internal combustion engine shall calculate the difference between the actual emissions from the unit during the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the cumulative hours of operations for the unit for the period by the horsepower rating of the unit and by the applicable emission rate set forth in paragraph (1) or (2).

(1) For a spark-ignited engine, 3.0 grams of NOx per brake horsepower-hour.

(2) For a compression ignition stationary internal combustion engine firing diesel fuel or a combination of diesel fuel and natural gas, 2.3 grams of NOx per brake horsepower-hour.

(d) Emissions from a stationary internal combustion engine that has been or is replaced by an electric motor may be counted as allowable emissions for purposes of this section and § 129.204, as follows:
For a replaced spark-ignited engine, 3.0 grams of NO\textsubscript{x} per brake horsepower-hour of the replacement motor, less 1.5 pounds of NO\textsubscript{x} per MWH of electricity consumed by the replacement motor.

For a replaced compression ignition stationary internal combustion engine that fired diesel fuel or a combination of diesel fuel and natural gas, 2.3 grams of NO\textsubscript{x} per brake horsepower-hour, less 1.5 pounds of NO\textsubscript{x} per MWH of electricity consumed by the replacement motor.

Authority
The provisions of this § 129.203 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source

Cross References
This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); and 25 Pa. Code § 129.204 (relating to emission accountability); and 25 Pa. Code § 145.8 (relating to transition to CAIR NO\textsubscript{x} trading program).

§ 129.204. Emission accountability.
(a) This section applies to units described in §§ 129.201—129.203 (relating to boilers; stationary combustion turbines; and stationary internal combustion engines).

(b) The owner or operator shall determine actual emissions in accordance with one of the following:

(1) If the owner or operator of the unit is required to monitor NO\textsubscript{x} emissions with a CEMS operated and maintained in accordance with a permit or State or Federal regulation, the CEMS data reported to the Department to comply with the monitoring and reporting requirements of this article shall be used. Any data invalidated under Chapter 139 (relating to sampling and testing) shall be substituted with data calculated using the potential emission rate for the unit or, if approved by the Department in writing, an alternative amount of emissions that is more representative of actual emissions that occurred during the period of invalid data.

(2) If the owner or operator of the unit is not required to monitor NO\textsubscript{x} emissions with a CEMS, one of the following shall be used to determine actual emissions of NO\textsubscript{x}:

(i) The 1-year average emission rate calculated from the most recent permit emission limit compliance demonstration test data for NO\textsubscript{x}.

(ii) The maximum hourly allowable NO\textsubscript{x} emission rate contained in the permit or the higher of the following:

(A) The highest rate determined by use of the emission factor for the unit class contained in the most up-to-date version of the EPA publication, “\textit{AP-42 Compilation of Air Pollution Emission Factors}.”
(B) The highest rate determined by use of the emission factor for the unit class contained in the most up-to-date version of EPA’s “Factor Information Retrieval (FIRE)” data system.

(iii) CEMS data, if the owner or operator elects to monitor NOx emissions with a CEMS. The owner or operator shall monitor emissions and report the data from the CEMS in accordance with Chapter 139 or Chapter 145 (relating to interstate pollution transport reduction). Any data invalidated under Chapter 139 shall be substituted with data calculated using the potential emission rate for the unit or, if approved by the Department in writing, an alternative amount of emissions that is more representative of actual emissions that occurred during the period of invalid data.

(iv) An alternate calculation and recordkeeping procedure based upon emissions testing and correlations with operating parameters. The operator of the unit shall demonstrate that the alternate procedure does not underestimate actual emissions throughout the allowable range of operating conditions. In regard to obtaining the Department’s approval for an alternate calculation method and recordkeeping procedure for actual emissions, the owner or operator may request an adjustment to the allowable emissions calculations set forth in §§ 129.201—129.203. An allowable emission adjustment may not overestimate a unit’s allowable emissions and must be based upon the parameters and procedures proposed in the alternate calculation method for actual emissions. The alternate calculation and recordkeeping procedures must be approved by the Department, in writing, prior to implementation.

(c) The owner or operator of a unit subject to this section shall surrender to the Department one CAIR NOx allowance and one CAIR NOx Ozone Season allowance, as defined in 40 CFR 96.102 and 96.302 (relating to definitions), for each ton of NOx by which the combined actual emissions exceed the allowable emissions of the units subject to this section at a facility from May 1 through September 30. The surrendered allowances shall be of current year vintage. For the purpose of determining the amount of allowances to surrender, any remaining fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton and any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

(d) If the combined allowable emissions from units subject to this section at a facility from May 1 through September 30 exceed the combined actual emissions from units subject to this section at the facility during the same period, the owner or operator may deduct the difference or any portion of the difference from the amount of actual emissions from units subject to this section at the owner or operator’s other facilities.

(e) By November 1, 2005, and by November 1 of each year thereafter, an owner or operator of a unit subject to this section shall surrender the required NOx allowances to the Department’s designated NOx allowance tracking system account and provide to the Department, in writing, the following:

(1) The serial number of each NOx allowance surrendered.

(2) The calculations used to determine the quantity of NOx allowances required to be surrendered.
(f) If an owner or operator fails to comply with subsection (e), the owner or operator shall by December 31 surrender three NOx allowances of the current or later year vintage for each NOx allowance that was required to be surrendered by November 1 of that year.

(g) The surrender of NOx allowances under subsection (f) does not affect the liability of the owner or operator of the unit for any fine, penalty or assessment, or an obligation to comply with any other remedy for the same violation, under the CAA or the act.

(1) For purposes of determining the number of days of violation, if a facility has excess emissions for the period May 1 through September 30, each day in that period (153 days) constitutes a day in violation unless the owner or operator of the unit demonstrates that a lesser number of days should be considered.

(2) Each ton of excess emissions is a separate violation.

Authority

The provisions of this § 129.204 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

Source


Cross References


§ 129.205. Zero emission renewable energy production credit.

In calculating actual emissions from a facility under § 129.204 (relating to emission accountability), the owner or operator may deduct 1.5 pounds of NOx per MWH of electricity or thermal power equivalent for each MWH of zero emission renewable energy produced, if the following conditions are met:

(1) The zero emission renewable energy production is certified in a tradable renewable certificate.

(2) The zero emission renewable energy was generated by a power source that produced zero emissions and used 100% renewable energy, such as solar or wind power, in producing the renewable energy. For hydropower, the power must be generated without the use of a dam.

(3) The zero emission renewable energy power source was originally brought into production on or after December 11, 2004.

(4) The zero emission renewable energy power source is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County.

(5) The owner or operator surrenders the renewable tradable certificate to the Department.
The owner or operator certifies that the conditions of this section have been satisfied.

**Authority**
The provisions of this § 129.205 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

**Cross References**
This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); and 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule).

## CONTROL OF NOx EMISSIONS FROM GLASS MELTING FURNACES

**§ 129.301. Purpose.**
The purpose of this section and §§ 129.302—129.310 is to annually limit the emissions of NOx from glass melting furnaces.

**Authority**
The provisions of this § 129.301 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

**Cross References**

**§ 129.302. Applicability.**
This section, § 129.301 (relating to purpose) and §§ 129.302—129.310 apply to an owner or operator of a glass melting furnace in this Commonwealth, including those within the jurisdiction of local air pollution control agencies in Philadelphia and Allegheny Counties approved under section 12 of the act (35 P.S. § 4012), that emits or has the potential to emit NOx at a rate greater than 50 tons per year.

**Authority**
The provisions of this § 129.302 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

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§ 129.303. Exemptions.

(a) The emission requirements in § 129.304 (relating to emission requirements) do not apply during periods of start-up, shutdown, or idling as defined in § 121.1 (relating to definitions), if the owner or operator complies with the requirements in §§ 129.305, 129.306 and 129.307 (relating to start-up requirements; shutdown requirements; and idling requirements).

(b) The owner or operator of a glass melting furnace claiming an exemption under subsection (a) shall notify the Department or the appropriate approved local air pollution control agency in writing within 24 hours after initiation of the operation for which the exemption is claimed. The methods for submitting the written notice may include e-mail, hand or courier delivery, certified mail or facsimile transmissions to the appropriate regional office described in § 121.4 (relating to regional organization of the Department) or appropriate approved local air pollution control agency. The notification must include:

(1) The date and time of the start of the exempt operation.

(2) The reason for performing the operation and an estimated completion date.

(3) Identification of the emission control system operating during the exemption period.

(c) The owner or operator of a glass melting furnace granted an exemption under this section shall maintain operating records or documentation, or both, necessary to support the claim for the exemption. The records shall be maintained for 5 years onsite and made available or submitted to the Department or appropriate approved local air pollution control agency, upon request.

(d) The owner or operator of a glass melting furnace shall notify the Department or the appropriate approved local air pollution control agencies in writing within 24 hours after completion of the operation for which the exemption is claimed.

Authority

The provisions of this § 129.303 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source


129-165

(380541) No. 500 Jul. 16
Cross References


§ 129.304. Emission requirements.

(a) Except as specified in §§ 129.303, 129.304(c), 129.305, 129.306 and 129.307, the owner or operator of a glass melting furnace may not operate the glass melting furnace in a manner that results in NOx emissions in excess of the following allowable limits or NOx emission limits contained in the plan approval or operating permit, whichever are lower:

1. 4.0 pounds of NOx per ton of glass pulled for container glass furnaces.
2. 7.0 pounds of NOx per ton of glass pulled for pressed or blown glass furnaces.
3. 4.0 pounds of NOx per ton of glass pulled for fiberglass furnaces.
4. 7.0 pounds of NOx per ton of glass pulled for flat glass furnaces.
5. 6.0 pounds of NOx per ton of glass pulled for all other glass melting furnaces.

(b) The owner or operator of a glass melting furnace shall comply with subsection (a) by January 1, 2012, unless a petition for an alternative emission limitation or compliance schedule is submitted, in writing, to the Department and appropriate approved local air pollution control agency by January 1, 2012, in accordance with subsection (c) and approved, in writing, by the Department or appropriate approved local air pollution control agency.

(c) An owner or operator of a glass melting furnace that does not meet the NOx emission limits specified under this section by January 1, 2012, may petition the Department and appropriate approved local air pollution control agency for an alternative emission limitation or compliance schedule as follows:

1. The owner or operator of a glass melting furnace subject to this section may submit, in writing, a petition requesting an alternative emission limitation. The petition must demonstrate to the satisfaction of the Department and appropriate approved local air pollution control agency that it is economically or technologically infeasible to meet the emission limitation under this section. The alternative emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

2. The owner or operator of a glass melting furnace for which the schedule for cold shutdown does not allow compliance by January 1, 2012 may submit a petition, in writing, requesting an alternative compliance schedule. The alternative compliance schedule for a cold shutdown which occurs after June 19, 2010, may not be extended beyond 180 days from the start-up of the furnace after the cold shutdown, unless approved, in writing, by the Department.
(3) A petition must include the following:
  (i) A brief description, including make, model and location, of each affected glass melting furnace.
  (ii) A list of all air pollution control technologies and measures that have been installed on each affected glass melting furnace and are operating to control emissions of NOx.
  (iii) The date of installation and original commencement of operation for each of the technologies and measures listed in accordance with subparagraph (ii).
  (iv) An explanation of how the NOx control technology or measure installed has been optimized for the maximum NOx emission reduction for each of the technologies and measures listed in accordance with subparagraph (ii).
  (v) The results of each stack test and other emissions measurements for the affected glass melting furnace following the installation and commencement of operation of the air pollution control technologies and measures listed in accordance with subparagraph (ii).
  (vi) The date of last scheduled cold shutdown for each affected furnace.
  (vii) The date of next scheduled cold shutdown of each affected furnace.
  (viii) Other relevant information requested, in writing, by the Department or appropriate approved local air pollution control agency.

(4) If an alternative compliance schedule is sought to meet the requirements of this section, the owner or operator shall submit a proposed schedule containing proposed interim milestone dates for completing each phase of the required work and a proposed final compliance date. The petition must also include a proposed interim emission limitation until compliance is achieved with the requirements specified in this section.

(5) If an alternative emission limitation is sought to meet the requirements of this section, the conditions or special circumstances which demonstrate that the applicable requirements are technologically or economically infeasible.

(6) If an alternative emission limitation is sought to meet the requirements of this section, the owner or operator shall propose emission limitations in the petition.

(7) Approved interim milestone dates or emission limitations determined to be necessary for effective monitoring of progress toward full compliance with the requirements of this section, §§ 129.301—129.303 and 129.305—129.310 shall be specified in a plan approval or operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(d) During routine maintenance of an add-on emission control system or systems, or maintenance or repair measures on furnace components, the owner or operator of a glass melting furnace subject to the emission limits specified under subsection (a) is exempt from these limits if:

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(1) All routine maintenance of an add-on emission control system or maintenance or repair measures on furnace components, or both, combined, in each calendar year does not exceed 144 hours total.

(2) The routine maintenance or maintenance or repair measure, or both, is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

Authority
The provisions of this § 129.304 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source

Cross References

§ 129.305. Start-up requirements.

(a) The owner or operator of the glass melting furnace shall submit, in writing, to the Department or appropriate approved local air pollution control agency, no later than 30 days prior to the anticipated date of start-up, information requested by the Department or appropriate approved local air pollution control agency to assure proper operation of the furnace. The information must include the following:

(1) A detailed list of activities to be performed during start-up and an explanation for the length of time needed to complete each activity.

(2) A description of the material process flow rates and system operating parameters and other information that the owner or operator plans to evaluate during the process optimization.

(b) The owner or operator of a glass melting furnace may submit a request for a start-up exemption in conjunction with the plan approval application if required. The actual length of the start-up exemption, if any, will be determined by the Department or appropriate approved local air pollution control agency at the time of the issuance of the plan approval or operating permit.

(c) The length of the start-up exemption following activation of the primary furnace combustion system may not exceed:

(1) Seventy days for a container, pressed or blown glass furnace.

(2) Forty days for a fiberglass furnace.

(3) One hundred and four days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).
(d) The requirements of subsection (c) notwithstanding, if the NOx control system is not in common use or is not readily available from a commercial supplier, the length of the maximum start-up exemption following activation of the primary furnace combustion system is as follows:

(1) One hundred days for a container, pressed or blown glass furnace.

(2) One hundred and five days for a fiberglass furnace.

(3) Two hundred and eight days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).

(e) The Department or appropriate approved local air pollution control agency may approve start-up exemptions, as appropriate, to the extent that the submittal clearly:

(1) Identifies the control technologies or strategies to be used.

(2) Describes the physical conditions that prevail during start-up periods that prevent the controls from being effective.

(3) Provides a reasonably precise estimate as to when physical conditions will have reached a state that allows for the effective control of emissions.

(f) During the start-up period, the owner or operator of a glass melting furnace shall maintain the stoichiometric ratio of the primary furnace combustion system so as not to exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

(g) The owner or operator shall place the emission control system in operation as soon as technologically feasible during start-up to minimize emissions.

**Authority**

The provisions of this § 129.305 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**


**Cross References**


**§ 129.306. Shutdown requirements.**

(a) The duration of a glass melting furnace shutdown, as measured from the time the furnace operations drop below 25% of the permitted production capacity or fuel use capacity to when all emissions from the furnace cease, may not exceed 20 days.

(b) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the
Department or appropriate approved local air pollution control agency, during shutdown to minimize emissions.

Authority

The provisions of this § 129.306 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source


Cross References


§ 129.307. Idling requirements.

(a) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during idling to minimize emissions.

(b) The NOx emissions during idling may not exceed the amount calculated using the following equation:

\[
Pounds\ per\ day\ emission\ limit\ of\ NOx = (Applicable\ NOx\ emission\ limit\ specified\ in\ §\ 129.304(a)\ (relating\ to\ emission\ requirements)\ expressed\ in\ pounds\ per\ ton\ of\ glass\ produced)\ \times (Furnace\ permitted\ production\ capacity\ in\ tons\ of\ glass\ produced\ per\ day)
\]

Authority

The provisions of this § 129.307 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source


Cross References


§ 129.308. Compliance determination.

(a) Not later than 14 days prior to the applicable compliance date under § 129.304(b) or (c), the owner or operator of a glass melting furnace subject to

\[
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\]
this section, §§ 129.301—129.307, 129.309 and 129.310 shall install, operate and maintain continuous emissions monitoring systems (CEMS, as defined in § 121.1 (relating to definitions)) for NOx and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and calculate actual emissions using the CEMS data reported to the Department. The owner or operator of a glass melting furnace may install or operate, or both, an alternate NOx emissions monitoring system or method, approved in writing by the Department or appropriate approved local air pollution control agency.

(b) Data invalidated under Chapter 139, Subchapter C, shall be substituted with the following if approved in writing by the Department or appropriate approved local air pollution control agency:

(1) The highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter.

(2) If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department or appropriate approved local air pollution control agency:

(i) The highest valid 1-hour emission value that occurred under similar source operating conditions during the most recent quarter for which valid data were collected.

(ii) The highest valid 1-hour emission value that occurred under similar source operating conditions during an alternative reporting period.

(3) An alternative method of data substitution.

(c) Instead of data substitution, the Department or appropriate approved local air pollution control agency may approve an alternative procedure to quantify NOx emissions and glass production.

(d) The owner or operator of a glass furnace subject to this section shall submit to the Department or the appropriate approved local air pollution control agencies quarterly reports of CEMS monitoring data in pounds of NOx emitted per hour, in a format approved by the Department and in compliance with Chapter 139, Subchapter C, or a format approved by the appropriate approved local air pollution control agencies.

(e) The CEMS or approved monitoring system or method for NOx installed under this section must meet the minimum data availability requirements in Chapter 139, Subchapter C.

Authority

The provisions of this § 129.308 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source


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§ 129.309. Compliance demonstration.

(a) The owner or operator of a glass melting furnace shall calculate and report to the Department or appropriate approved local air pollution control agency on a quarterly basis, no later than 30 days after the end of the quarter, the CEMS data and glass production data used to show compliance with the allowable NOx emission limitation specified in § 129.304 (relating to emission requirements). The glass production data must consist of the quantity of glass, in tons, pulled per day for each furnace.

(b) The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) using one of the following methods:

(1) On a furnace-by-furnace basis.

(2) Facility-wide emissions averaging.

(3) System-wide emissions averaging among glass melting furnaces under common control of the same owner or operator in this Commonwealth.

(c) The owner or operator of a glass melting furnace for which the Department or the appropriate approved local air pollution control agency has granted approval to voluntarily opt into a market-based program may not demonstrate compliance on an emissions averaging basis under subsection (b). An emission reduction obtained by emissions averaging to demonstrate compliance with the emission requirements of § 129.304(a) will not be considered surplus for emission reduction credit purposes. The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) in accordance with subsection (d).

(d) Compliance with the emission requirements of § 129.304(a) shall be determined on a 30-day rolling average basis.

Authority

The provisions of this § 129.309 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source

§ 129.310. Recordkeeping.

(a) The owner or operator of a glass melting furnace subject to this section and §§ 129.301—129.309 shall maintain records to demonstrate compliance. The records must include an operating log maintained for each glass melting furnace that includes, on a daily basis:

(1) The total hours of operation.
(2) The type and quantity of fuel used.
(3) The quantity of glass pulled.

(b) The owner or operator of a glass melting furnace shall maintain records of:

(1) Source tests and operating parameters established during the initial source test.
(2) Maintenance, repairs, malfunctions, idling, start-up and shutdown.

(c) The owner or operator claiming that a glass melting furnace is exempt from the requirements of §§ 129.301—129.309 based on the furnace’s potential to emit shall maintain records that clearly demonstrate to the Department or appropriate approved local air pollution control agency that the furnace is not subject to §§ 129.301—129.309.

(d) The records required under this section shall be maintained onsite for 5 years. The records shall be made available or submitted to the Department or appropriate approved local air pollution control agency upon request.

Authority
The provisions of this § 129.310 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

Source

Cross References
APPENDIX A

Cross References
This appendix cited in 25 Pa. Code § 129.13 (relating to sulfur recovery plants).

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