

Title 26- DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 19 Volatile Organic Compounds from Specific Processes

.02 Applicability, Determining Compliance, Reporting, and General Requirements.

A. Applicability.

(1) Any installation or source subject to the provisions of this chapter is also subject to all applicable provisions of all other chapters in this subtitle. However, when this chapter establishes an emission standard for a specific installation which differs from the general emission standard in COMAR 26.11.06.01—.09, this chapter takes precedence.

(2) This chapter is applicable throughout the State.

(3) Except as provided in §A(4) of this regulation, if a source becomes subject to any requirement in this chapter because either its potential to emit or actual emissions exceed an applicability threshold, the source, after that, is subject to all applicable requirements, regardless of whether a future emission rate is below the applicability threshold.

(4) If a source is subject to a federally enforceable emissions limit, that limit determines whether the source is subject to the requirements of this chapter.

(5) In determining the applicability of any requirements in this chapter that specify an applicability threshold in terms of actual emissions, the emission on any day since January 1, 1990, shall be considered.

B. Method of Compliance.

(1) Unless otherwise stated, compliance with the applicable emission standards established in this chapter is based on the VOC content of each coating or adhesive, as applied.

(2) A person subject to this chapter shall comply with the emission standards in this chapter by:

(a) Applying low VOC coatings or adhesives that meet applicable standards;

(b) Using a control device that, when tested by approved test methods:

(i) Complies with applicable emission reduction requirements, or

(ii) Results in an emission reduction equal to or greater than the emission reduction that would have been achieved by complying with §B(2)(a) of this regulation;

(c) Complying with the operating conditions or equipment specifications established in the applicable regulation;

(d) For sources subject to VOC limits in coatings or inks or other similar products, reducing emissions by using water-based coatings, resins, inks, or similar products that contain less than 25 percent VOC by volume of the volatile portion of the product; or

(e) Using an alternative method of assessing compliance if:

(i) The alternative method is approved by the Department,

(ii) The resulting emissions are equal to or less than the emissions that would have been discharged by complying with emission standards,

(iii) Adequate records are maintained to ensure enforceability, and

(iv) The alternative compliance method is approved by the U.S. EPA as a revision to the State Implementation Plan.

C. Determination of Equivalency. If compliance is achieved by a method other than use of a low VOC coating or adhesive that meets the applicable emission standard established in this chapter, compliance with the standard shall be determined on the basis of equal volume of solids applied.

D. Test Method.

(1) The VOC content for any coating or adhesive used pursuant to the requirements of this chapter shall be determined using Method 24 of Appendix A of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January 1991), which is incorporated by reference in COMAR 26.11.01.04C.

(2) If compliance with any requirement in this chapter is achieved through use of an air pollution control device, compliance shall be determined in accordance with COMAR 26.11.01.04C.

(3) Alternative methods for determining compliance may be used if approved by the Department and by the US EPA.

E. Computations.

(1) "Kilograms per liter of coating or adhesive applied (minus water)" shall be computed by the following formula:

Kilograms per liter of coating or adhesive applied (minus water) = $A/(1 - (B/0.995) - (C/D))$ when:

A is the weight in kilograms of VOC in each liter at standard conditions,

B is the weight in kilograms of water in each liter at standard conditions,

C is the weight in kilograms of exempt solvent in each liter at standard conditions, and

D is the density of the exempt solvent in kilograms per liter.

(2) "Pounds per gallon of coating or adhesive applied (minus water)" shall be computed by the following formula:

Pounds per gallon of coating or adhesive applied (minus water) = $A/(1 - (B/8.321) - (C/D))$ when:

A is the weight in pounds of VOC in each gallon at standard conditions,

B is the weight in pounds of water in each gallon at standard conditions,

C is the weight in pounds of exempt solvent in each gallon at standard conditions, and

D is the density of the exempt solvent in pounds per gallon.

(3) The composite vapor pressure of organic compounds for any cleaning solution, solvent, or degreasing material shall be determined as follows:

(a) The composite vapor pressure of organic compounds shall be determined by quantifying the amount of each compound in the blend using gas chromatographic analysis (ASTM E 260-91) for organics and ASTM D3792-79 for water content, as applicable, and the following equation:

$$Pp_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/Mw_i}{W_w/Mw_w + \sum_{i=1}^n W_o/Mw_o + \sum_{i=1}^n W_i/Mw_i}$$

Where:

Pp_c = VOC composite partial pressure at 200 C, in mm Hg

W_i = Weight of the "I"th VOC compound, in grams, as determined by ASTM E 260-91

W_w = Weight of water, in grams as determined by ASTM D 3792-86

We = Weight of the “I”th exempt compound, in grams, as determined by ASTM E 260-91

Mwi = Molecular weight of the “I”th VOC compound, in grams per g-mole, as given in chemical reference literature

Mww = Molecular weight of water, 18 grams per g-mole

Mwe =Molecular weight of the “I”th exempt compound, in grams per g-mole, as given in chemical reference literature

Vpi = Vapor pressure of the “I”th VOC compound at 20 C, in mm Hg, as determined by §E(4)(b) of this regulation.

(b) The vapor pressure of each single component compound may be determined from ASTM D2879-86, or may be obtained from a material safety data sheet or another source approved by the Department.

(4) The mass VOC to mass solids applied for coatings, adhesives, or inks shall be determined as follows:

(a) The VOC content, water content, density, volume solids, and weight solids for any coating, adhesive, or ink used pursuant to the requirements of this chapter shall be determined as specified in COMAR 26.11.01.04C.

(b) The weight of coating solids shall be calculated as follows:

$$VOCS = \frac{Wv - Ww - Wex}{Wn}$$

Where:

VOCS = VOC content in lb VOC/lb of coating solids or in kg VOC/kg of coating solids

Wv = 100% - Wn

Ww = Weight percent of water

Wex = Weight percent of exempt solvents

Wn = Weight percent of solids of the as applied coating

(5) The weight of VOC in units of weight VOC per weight coating applied (in pounds VOC/pounds coating applied or in VOC/kg coating applied) for coatings, adhesives, or inks shall be determined as follows:

(a) The VOC content, water content, density, volume solids, and weight solids for any coating, adhesive, or ink used pursuant to the requirements of this chapter shall be determined as specified in COMAR 26.11.01.04C.

(b) The weight of coating solids shall be calculated as follows:

$$\text{VOC}_M = W_V - W_W - W_{EX}$$

Where:

VOC_M = VOC content in lb VOC/lb of coating or in kg VOC/kg of coating

W_V = 100% - W_n

W_W = Weight percent of water

W_{EX} = Weight percent of exempt solvents

W_n = Weight percent of solids of the as applied coating

F. Reporting and Record-Keeping Requirements.

(1) Reporting Requirements for Listed Sources.

(a) A person who owns or operates any of the installations or sources listed below shall, unless otherwise required by a permit condition or administrative order, submit a quarterly report to the Department on or before the 20th of the month following the end of each calendar quarter:

(i) A major stationary source of VOC, as defined in Regulation .01B(4) of this chapter;

(ii) A source that has an approved alternative method of assessing compliance under §B(2)(d) of this regulation;

(iii) A source for which the Department has authorized compliance through use of averaging or that has an emission cap or other emission or production limitation; and

(iv) Any other source, as determined by the Department, based on the quality or quantity of materials used or processed.

(b) The report shall include, at a minimum, the VOC content and the quantity of VOC bearing materials used during the specified time period, and operational parameters that are necessary to ensure compliance.

(2) Reporting Requirements for Small Sources. A person who owns or operates an installation or source for which a standard has been established in this chapter and has VOC emissions below the applicable regulation threshold shall maintain records pertaining to the quality and quantity of VOC materials used that are adequate to demonstrate that emissions are below the applicable threshold at all times.

(3) Record Keeping Requirements.

(a) Data shall be recorded in a manner consistent with the time period to which a standard applies to enable the determination of compliance. For example, 24-hour records shall be maintained for a 24-hour time-weighted average.

(b) Data shall be maintained for a period of at least 2 years, and made available to the Department upon request.

(c) The reporting format and acceptable data summary shall be as prescribed by the Department.

G. Control of Major Stationary Sources of Volatile Organic Compounds.

(1) This section applies to a person who owns or operates any major stationary source of VOC that is not subject to any VOC emission standard in COMAR 26.11.10, 26.11.11, 26.11.13, 26.11.14, or Regulations .03—.33 of this chapter.

(2) A person who owns or operates a major stationary source of VOC subject to this section shall:

(a) Identify each installation or source to which this section applies and notify the Department in writing of this identification, not later than:

(i) August 15, 1993, for all major stationary sources of VOC except major stationary sources of VOC with the potential to emit between 25 and 50 tons per year of VOC and located in Calvert, Charles, Frederick, Montgomery, or Prince George's counties, or

(ii) January 20, 1995, for major stationary sources of VOC with the potential to emit between 25 and 50 tons per year of VOC and located in Calvert, Charles, Frederick, Montgomery, and Prince George's counties;

(b) Estimate emissions for each installation or source identified in §G(2)(a) of this regulation and conduct tests as required by the Department to verify emissions estimates;

(c) Submit to the Department, in writing, a proposal for RACT for each installation or source identified and an expeditious schedule to comply with the proposed RACT standard by not later than:

(i) November 15, 1993, for all major stationary sources of VOC except major stationary sources of VOC with the potential to emit between 25 and 50 tons per year of VOC and located in Calvert, Charles, Frederick, Montgomery, or Prince George's counties; or

(ii) March 20, 1995, for major stationary sources of VOC with the potential to emit between 25 and 50 tons per year of VOC and located in Calvert, Charles, Frederick, Montgomery, or Prince George's counties; and

(d) By not later than May 15, 1995, comply with RACT as determined by the Department for that major stationary source.

(3) Upon its approval of a RACT standard, the Department shall:

(a) Amend the source's permit to operate to include the RACT requirements;

(b) If the source does not have a permit to operate, require the source to submit an application for a permit to operate pursuant to COMAR 26.11.02.13, and issue a permit to operate that includes the RACT requirements;

(c) Adopt a regulation that reflects RACT; or

(d) Issue an order that includes the RACT requirements.

(4) A RACT standard established by the Department pursuant to this section shall be submitted to the U.S. EPA for approval as a revision to the State Implementation Plan.

H. A person who owns or operates an existing installation that is not in compliance with this chapter and that is located in Allegany, Calvert, Caroline, Charles, Dorchester, Frederick, Garrett, Kent, Queen Anne's, Somerset, St. Mary's, Talbot, Washington, Wicomico, or Worcester counties shall submit a plan for compliance for approval by the Department. The plan for compliance shall be submitted not later than November 15, 1993, and include an expeditious schedule to achieve compliance by not later than May 15, 1995.

I. Good Operating Practices, Equipment Cleanup, and VOC Storage.

(1) Applicability. The requirements in this section apply to a person who owns or operates an installation that is subject to any requirement in this chapter.

(2) Good Operating Practices.

(a) A person who is subject to this section shall implement good operating practices to minimize VOC emissions into the atmosphere.

(b) Good operating practices shall, at a minimum, include the following:

(i) Provisions for training of operators on practices, procedures, and maintenance requirements that are consistent with the equipment manufacturers' recommendations and the source's experience in operating the equipment, with the training to include proper procedures for maintenance of air pollution control equipment;

(ii) Maintenance of covers on containers and other vessels that contain VOC and VOC-containing materials when not in use;

(iii) Minimize spills of VOC-containing cleaning materials;

(iv) Convey VOC-containing cleaning materials from one location to another in closed containers or pipelines;

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

(vi) As practical, scheduling of operations to minimize color or material changes when applying VOC coatings or other materials by spray gun;

(vii) For spray gun applications of coatings, use of high volume low pressure (HVLP) or other high efficiency application methods where practical; and

(viii) As practical, mixing or blending materials containing VOC in closed containers and taking preventive measures to minimize emissions for products that contain VOC.

(c) A person subject to this regulation shall:

(i) Establish good operating practices in writing;

(ii) Make the written operating practices available to the Department upon request; and

(iii) Display the good operating practices so that they are clearly visible to the operator or include them in operator training.

(3) Equipment Cleanup.

(a) A person subject to this section shall take all reasonable precautions to prevent or minimize the discharge of VOC into the atmosphere when cleaning process and coating application equipment, including containers, vessels, tanks, lines, and pumps.

(b) Reasonable precautions for equipment cleanup shall, at a minimum, include the following:

(i) Storing all wastes and waste materials, including cloth and paper that are contaminated with VOC, in closed containers;

(ii) Preparing written standard operating procedures for frequently cleaned equipment, including when practical, provisions for the use of low-VOC or non-VOC materials and procedures to minimize the quantity of VOC materials used;

(iii) Using enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods where practical that reduce or eliminate VOC emissions; and

(iv) Using, when practical, detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines, containers, and process equipment.

(4) VOC Storage and Transfer.

(a) A person subject to this section who stores VOCs shall, at a minimum, install conservation vents or other vapor control measures on storage tanks with a capacity of 2,000 gallons or more to minimize VOC emissions.

(b) A person subject to this section shall, at a minimum, utilize vapor balance, vapor control lines, or other vapor control measures when VOCs are transferred from a tank truck into a stationary storage tank with a capacity greater than 10,000 gallons and less than 40,000 gallons that store VOCs or materials containing VOCs, other than gasoline, that have a vapor pressure greater than 1.5 psia.