

## 8.0 Handling, Storage, and Disposal of Volatile Organic Compounds (VOCs) (2010 revision, draft 1)

11/29/1994 mm/dd/2010

8.1 Except as provided for in 8.2, the requirements of 8.0 of this regulation apply to: any facility that is subject to any of the requirements of 10.0 through 50.0 of this regulation, and any facility that emits at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.

### 8.2 Exemptions.

8.2.1 The requirements of 8.0 this regulation do not apply to any equipment or operations that is specially subject to the emission limitations of 10.0 or 11.0 of this regulation; or to any piece of equipment that is specifically subject to the requirements of 33.0 of this regulation.

8.2.2 Existing sources affected by 8.0 of this regulation shall comply with the provisions of 8.0 of this regulation on and after (*insert the effective date*), except for the requirements of 8.4 of this regulation. Existing sources affected by 8.4 of this regulation shall comply with the requirements of 8.4 of this regulation beginning as soon as practical, but no later than (*insert one year after the effective date*). New, modified, or reconstructed sources affected by 8.0 of this regulation shall comply with the provisions of 8.0 of this regulation on and after startup.

8.2.3 The requirements of 8.4 of this regulation shall not apply to any facility subject to 47.0 of this regulation, or to the cleaning of:

8.2.4.1 Electrical and electronic components;

8.2.4.2 Precision optics;

8.2.4.3 Numismatic dies;

8.2.4.4 Cured inks, coatings, and adhesives;

8.2.4.5 Resin, coating, ink, and adhesive mixing, molding, and application equipment;

8.2.4.6 Research and development laboratories;

8.2.4.7 Medical device or pharmaceutical manufacturing; and

8.2.4.8 Coatings, inks, or adhesives involved in performance or quality assurance testing.

### 8.3 Work Practice Standards.

8.3.1 No owner or operator of a facility subject to 8.3 of this regulation may cause, allow, or permit the disposal of more than five kilograms (kg) (11 pounds [lb]) of

any VOC, or of any materials containing more than five kg (11 lb) of any VOCs, at that facility in any one day in a manner that would permit the evaporation of VOC into the ambient air. This provision does not apply to:

- 8.43.1.1 Any VOC or material containing VOC emitted from a regulated entity that is subject to a VOC standard under this regulation.
  - 8.43.1.2 Coating sources that are exempt from the emission limitations of 10.0 through 23.0 of this regulation.
  - 8.43.1.3 Waste paint (sludge) handling systems, water treatment systems, and other similar operations at coating facilities using complying coatings.
  - 8.43.1.4 Any VOC or material containing VOCs used during process maintenance turnarounds for cleaning purposes, provided that the provisions of 8.3.3, 8.3.4 and 8.3.5 of this regulation are followed.
- 8.43.2 The requirements of 8.43.1 of this regulation includes, but is not limited to, the disposal of VOC from VOC control devices.
- 8.43.3 No owner or operator of a facility subject to 8.3 of this regulation shall use open containers for the storage or disposal of cloth or paper impregnated with VOCs ~~that are used for surface preparation, cleanup, or coating removal~~. Containers for the storage or disposal of cloth or paper impregnated with VOCs shall be kept closed, except when adding or removing material.
- 8.43.4 No owner or operator of a facility subject to 8.3 of this regulation shall store in open containers spent or fresh VOC ~~or VOC containing material to be used for surface preparation, cleanup or coating removal~~. Containers for the storage of spent or fresh VOCs or VOC containing material shall be kept closed, except when adding or removing material.
- 8.43.5 No owner or operator of a facility subject to 8.3 of this regulation shall use VOC for the cleanup of spray equipment unless one or more of the following methods are equipment is used to collect the cleaning compounds and to minimize their evaporation to the atmosphere.
- 8.3.5.1 Use of an enclosed spray gun cleaning system that is kept closed when not in use.
  - 8.3.5.2 Non-atomized discharge of solvent into a waste container that is kept closed when not in use.
  - 8.3.5.3 Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.
  - 8.3.5.4 Atomized spray into a waste container that is fitted with a device that captures atomized solvent emissions.
  - 8.3.5.5 Any alternative technique that has been demonstrated to, and accepted by the Department as producing emissions that are equal to or less than the emissions from the techniques specified in 8.3.5.1 through 8.3.5.4 of this regulation. Emissions from any

alternative technique shall be demonstrated pursuant to test protocols that are approved in advance by the Department.

8.3.6 Any owner or operator of a facility subject to 8.3 of this regulation shall handle and transfer all fresh and spent cleaning solvent and other VOC-containing material to or from any container, tank, vat, vessel, or piping system, etc. in such a manner that minimizes losses.

8.4 Control Requirements. No owner or operator of a facility subject to 8.4 of this regulation shall use any liquid VOC containing material for hand-wipe, spray gun, or flush cleaning that does not meet one of the requirements of 8.4.1 through 8.4.3.

8.4.1 The VOC content is equal to or less than 50 grams VOC per liter (0.42 lb/gal), as applied, or

8.4.2 The VOC composite vapor pressure is equal to or less than 8 millimeters of mercury (mmHg) at 20 degrees Celsius, as applied, or

8.4.3 The emissions of that material are controlled by an emission control system that:

8.4.3.1 Achieves an overall control efficiency of equal to or greater than 85 percent, by weight, or

8.4.3.2 Maintains a maximum outlet total organic carbon concentration of 20 parts per million by volume (ppmv) as carbon (C1) on a dry basis.

8.5 Test Methods and Procedures.

8.5.1 Any owner or operator subject to 8.4.1 of this regulation shall determine the VOC content of each cleaning solution using the test methods and procedures specified in **Appendix A** and **Appendix B** of this regulation, or using the manufacturer's product formulation data, and the following equation:

$$\text{VOC Content (in grams per liter of material)} = (W_s - W_w - W_{es}) / V_m \quad (8-1)$$

Where:

$W_s$  = Weight of volatile compounds in grams(g);

$W_w$  = Weight of water, in g;

$W_{es}$  = Weight of exempt compounds in g;

$V_m$  = Volume of material in liters

8.5.2 Any owner or operator subject to 8.4.2 of this regulation shall determine the VOC composite vapor pressure of each cleaning solution using the test methods and procedures specified in **Appendix A** and **Appendix B** of this regulation, or using the manufacturer's product formulation data, and the following equation:

$$PP_C = \sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i} \frac{MW_w + MW_e + \sum_{i=1}^n \frac{W_i}{MW_i}}{MW_w + MW_e + \sum_{i=1}^n \frac{W_i}{MW_i}} \quad (8-2)$$

Where:

$W_i$  = Weight of the  $i^{\text{th}}$  VOC compound, in grams (g);

$W_w$  = Weight of water, in g;

$W_e$  = Weight of exempt compound, in g;

$MW_i$  = Molecular weight of the  $i^{\text{th}}$  VOC compound, in grams per gram-mole

$MW_w$  = Molecular weight of water, in grams per gram-mole

$MW_e$  = Molecular weight of exempt compound, in grams per gram-mole;

$PP_C$  = VOC composite partial pressure at 20°C, in mmHg

$VP_i$  = Vapor pressure of the  $i^{\text{th}}$  VOC compound at 20°C, in mmHg

8.5.3 Any owner or operator subject to 8.4.3 of this regulation shall conduct an initial test to demonstrate the efficiency of each emission control system using the applicable test methods and procedures specified in **Appendix A** through **Appendix E** of this regulation. The cleaning operation shall operate at maximum operating conditions and flow rates during any emission testing.

8.6. Recordkeeping. Any owner or operator subject to 8.4 of this regulation shall maintain all of the information necessary for the Department to determine compliance with the applicable requirements of Section 8.4 of this regulation. Such information shall be made available to the Department upon verbal or written request, and shall be maintained for a minimum of five years from the date such record is created. Information sufficient to determine compliance shall include, but is not limited to the following:

8.6.2.1 Name and quantity of each cleaning solvent used,

8.6.2.2 VOC content or vapor pressure of each cleaning solvent, as applied,

8.6.2.3 Material Safety Data Sheets for all cleaning solvents used,

8.6.2.4 Documentation of air pollution control equipment efficiency or capture efficiency, if applicable,

8.6.2.5 Date and type of maintenance performed on air pollution control or capture equipment, if applicable, and

8.6.2.6 Quantity of non-compliant solvent used, in gallons, for each day, each week, and calendar year.