

I. Applicability

The provisions of this rule shall apply to any source operation emitting Volatile Organic Compounds (VOC) from the use of organic solvents unless the source operation is exempted under Section III (Exemptions).

II. Definitions

- A. APCO: As defined in Rule 102 (Definitions).
- B. Baked: A process whereby the coated object is heated above ambient temperature to a temperature at or above 194°F for the purpose of curing or drying.
- C. CARB: California Air Resources Board.
- D. Disinfectant: A product that is labeled to destroy or irreversibly inactivate infectious or other undesirable bacteria, pathogenic fungi, or viruses on surfaces or inanimate objects and whose label is registered as a “disinfectant” under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.C. 136, et seq.). Products that are labeled as both a “sanitizer” and a “disinfectant” are considered disinfectants.
- E. Dissolver: An organic solvent that is added to an adhesive, coating, or ink in order to melt or to liquefy solid particles.
- F. EPA: United States Environmental Protection Agency.
- G. Exempt Compounds: All organic compounds not classified as VOC, as listed in the definition of VOC in Rule 102 (Definitions).
- H. Facility: The same as ‘Stationary Source’ as defined in Rule 210.1
- I. Grams of VOC per liter of Material: The weight of VOC per volume of material and is calculated by the following equation:

$$\text{Grams of VOC per liter of material} = \frac{W_s - W_w - W_{ec}}{V_m}$$

Where:

 - W_s = Weight of volatile compounds, in grams
 - W_w = Weight of water, in grams
 - W_{ec} = Weight of exempt compounds, in grams
 - V_m = Volume of material, in liters.
- J. Heat-Cured or Heat-Polymerized: heated to a temperature less than or equal to 194°F for the purpose of curing a coating, ink or adhesive.
- K. Organic Solvent: The same as “Solvent.”

L. Photochemically Reactive Solvent: Any organic solvent with an aggregate of more than 20% of its total volume composed of chemical compounds classified below or which exceeds any of the following individual percentage composition limitations referring to the total volume of solvent:

1. A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cycloolefinic type of unsaturation: five (5) percent; or
2. A combination of aromatic compounds with eight (8) or more carbon atoms to the molecule except ethylbenzene: eight (8) percent; or
3. A combination of ethylbenzene, ketones having branched hydrocarbon structures, or toluene: 20%.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one (1) of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percentage of the total volume of solvents.

M. SCAQMD: South Coast Air Quality Management District.

N. Solvent: Any liquid containing an organic compound or combination of organic compounds used as diluent, thinner, dissolver, viscosity reducer, cleaning agent, or other similar uses. These liquids are principally derived from petroleum and include petroleum distillates, chlorinated hydrocarbons, chlorofluorocarbons, ketones, and alcohols. Solutions, emulsions, and dispersions of water and soap, or water and detergent, are not considered organic solvents. Soaps and detergents are considered water based surfactants. Disinfectants are not considered solvents while applied for the purpose of destroying bacteria, viruses, or fungi.

O. Standard Conditions: As defined in Rule 102 (Definitions).

P. Thinner or Viscosity Reducer: An organic solvent which is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions.

Q. Volatile Organic Compound (VOC): The definitions contained in 40 CFR 51.100 shall apply, and are hereby incorporated by reference. In the event of any discrepancy between a definition contained in 40 CFR 51.100 and any definition in this rule, the definition in 40 CFR 51.100 (s) above shall be utilized.

III. Exemptions

The provisions of this Rule shall not apply to:

- A. The manufacture of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents.

- B. Coatings, coating removers (strippers), surface preparation material, and cleanup material specifically subject to the requirements of the following District rules:
 - 1. 410.1A, Architectural Coating Controls;
 - 2. 410.3, Organic Solvent Degreasing Operation;
 - 3. 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations,
 - 4. 410.4A, Motor Vehicle and Mobile Equipment Refinishing Operations,
 - 5. 410.7, Graphic Arts;
 - 6. 410.8, Aerospace Assembly and Coating Operations;
 - 7. 410.9, Wood Products Surface Coating Operations;
 - 8. 432, Polyester Resin.

- C. The spraying or other employment of insecticides, pesticides or herbicides.

- D. The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchloroethylene.

- E. The use of any material, in any article, machine, equipment or other contrivance described in Sections IV.B, IV.C, and IV.D if:
 - 1. The volatile content of the material consists only of water and organic solvents, and
 - 2. The organic solvents content comprises not more than 20% by volume of the total volatile content, and
 - 3. The volatile content is not photochemically reactive, and the organic solvent does not come into contact with flame.

- F. Provisions of this rule do not apply to organic compounds while applied to surfaces for the specific purpose of disinfection. Disinfectants purchased and applied in consumer applications subject to the requirement of California Air Resources Board (CARB) Consumer Products Rules, 17 CCR 94500 – 94555 are exempt from this rule. Disinfectants purchased in bulk or not subject to CARB Consumer Products Rules are also not subject to the requirements of this rule.

IV. Requirements

- A. Sections IV.B through IV.E shall remain in effect until March 8, 2024.

- B. Solvents Subjected to Heat: A person shall not discharge into the atmosphere more than 15 pounds or organic materials in any 1 day from any article, machine, equipment, or other contrivance in which any organic solvent or any material containing organic solvent comes into contact with flame or is baked, heat-cured, or heat-polymerized in the presence of oxygen, unless said discharge has been reduced by a least 85 percent. These portions of any series of articles, machines, equipment, or other contrivances designed for processing continuous web, strip, or wire that emit organic materials in the course of using operations described in this Section shall be collectively subject to compliance with this Section.

- C. Photochemically Reactive Solvents: A person shall not discharge into the atmosphere more than 40 pounds of organic materials in any 1 day from any article, machine, equipment or other contrivance used under conditions other than those described in IV.B for employing or applying any photochemically reactive solvent, or any material containing such photochemically reactive solvent, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated-drying of products for the first 12 hours after their removal from any article, machine, or other contrivance described in this Section shall be included in determining compliance with this paragraph. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in IV.B of this rule shall be excluded from determination of compliance with this Section. Those portions of any series of articles, machines, equipment, or other contrivances designed for processing a continuous web, strip, or wire that emit organic materials in the course of using operations described in this Section shall be collectively subject to compliance with this Section.
- D. Non-photochemically Reactive Solvents: A person shall not, discharge into the atmosphere more than 3,000 pounds of organic materials in any 1 day from any article, machine, equipment, or other contrivance in which any non-photochemically reactive organic solvent or any material containing such a solvent is employed or applied, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated-drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this Section shall be included in determining compliance with this Section. Emissions resulting from baking, heat-curing, or heatpolymerizing as described in IV.B of this rule, shall be excluded from determination of compliance with this Section. Those portions of any series of articles, machines, equipment, or other contrivances designed for processing a continuous web, strip, or wire that emit organic materials in the course of using operations described in this Section shall be collectively subject to compliance with this Section.
- E. Cleanup: Emissions of organic materials to the atmosphere from the cleanup with photochemically reactive solvent, from any article, machine, equipment or other contrivance described in IV.B, IV.C, and IV.D ., shall be included with the other emissions of organic materials from that article, machine, equipment or other contrivance for determining compliance with this Rule.
- F. On and after March 8, 2024, from all VOC-containing materials, equipment, and processes subject to this rule, an operator shall not emit to the atmosphere VOCs in excess of 450 pounds VOC per calendar month per facility.
1. Compliance with provisions above may be obtained through use of any of the following or any combination thereof:
 - a. Product reformulation or substitution;
 - b. Process changes;
 - c. Improvement of operation efficiency;
 - d. Development of innovative technology;

G. In lieu of meeting the VOC emission limit in Section IV.F, an operator may install and operate a VOC emission control system that meets the following requirements.

1. The VOC emission control system shall be approved by the APCO.
2. The VOC emission control system shall have a capture efficiency of at least 90 percent by weight (90 wt%) and a control efficiency of at least 95 wt%.

H. Organic Solvent Storage, and Disposal Requirements

An operator shall store or dispose of fresh or spent solvents, including waste solvent cleaning materials such as cloth, paper, etc., coatings, adhesives, catalysts, and thinners in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when filling or emptying, and disposed of in a manner to prevent evaporation of VOCs into the atmosphere at the facility.

V. **Administrative Requirements**

A. Recordkeeping

1. Until March 8, 2024 the records shall identify the organic solvent used in all source operations and shall include the name of each organic solvent, any person using organic solvents or any materials containing organic solvents shall supply the Air Pollution Control Officer, upon request and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.
2. On and after March 8, 2024, operators shall:
 - a. Materials List: An operator shall maintain and have available on site, a current list of materials in use which provides all of the data necessary to evaluate compliance including the following information as applicable:
 - i Specific manufacturer's name of solvent-containing material, including solvents, catalysts, and thinners.
 - ii VOC content of each solvent-containing material, as used, in g/l or lb/gal.
 - b. Material Usage Records – An operator shall maintain usage records on a daily basis that include the following information:
 - i Specific material.
 - ii Volume of material used (gallons).
 - iii Specific solvents, catalysts and thinners added to material.
 - iv Volume of each solvent, catalyst and thinner (gallons) added.
 - v When the material is a mixture of different materials that are blended by the operator, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the VOC emission limits.

3. VOC Emission Control System Records

An operator using a VOC emission control system as a means of complying with this rule shall maintain daily records of key system operating parameters which will demonstrate continuous operation and compliance of the VOC emission control system during periods of emission-producing activities.

4. Record Retention

Records required by this Rule shall be retained for a minimum of three years and made available to the APCO upon request.

B. Emission Control Plan

An owner/operator of an existing facility subject to this Rule and not meeting VOC emission limits listed in section IV.F, shall submit to the Control Officer an Emission Control Plan, including:

1. List of each organic solvent usage operation subject to the Rule, VOC emission limit for each operation, annual VOC emissions from each operation from the preceding three calendar years, and whether the operation is served by a VOC control device.
2. Description of actions to be taken to meet the requirements of Subsection IV.F. Such plan shall include any type of emissions control equipment to be applied to each operation and construction schedule.

VI. Test Methods

A. Determination of VOC Content

1. The VOC content of organic solvents shall be determined by using EPA Test Method 24 or 24A or by using the manufacturer's product formulation data and the formula in Section II.H.
2. Exempt halogenated VOCs shall be determined by using the CARB Test Method 432 or SCAQMD Test Method 303.

B. Determination of Overall Capture and Control Efficiency of VOC Emission Control Devices

1. The capture efficiency of a VOC emission control system's collection device(s) shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR 51, Appendix M, Test Methods 204-204F, as applicable, or any other method approved by EPA, ARB, and the APCO.

- The control efficiency of the VOC emission control system's control device shall be determined by using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Method 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the control device. EPA Method 18 or CARB Method 422 shall be used to determine the emissions of exempt compounds. Other ARB, EPA, and ASTM methods verifying VOC emission control may be authorized by the APCO as applicable. The control efficiency of the VOC emission control system's control device shall be calculated by using the following equation:

$$CE_{\text{CONTROL}} = [1 - (\text{VOC}_{\text{OUT}} / \text{VOC}_{\text{IN}})] \times 100\%$$

Where:

- CE_{CONTROL} = Control Efficiency, in percent
- VOC_{IN} = VOC content, in grams/liter, less exempt compounds and water, into the control device
- VOC_{OUT} = VOC content, in grams/liter, less exempt compounds and water, out of the control device

- For VOC emission control systems that consist of a single VOC emission collection device connected to a single VOC emission control device, the overall capture and control efficiency shall be calculated by using the following equation:

$$CE_{\text{CAPTURE \& CONTROL}} = [CE_{\text{CAPTURE}} \times CE_{\text{CONTROL}}] / 100 \%$$

Where:

- $CE_{\text{CAPTURE \& CONTROL}}$ = Overall Capture and Control Efficiency, in percent
- CE_{CAPTURE} = Capture Efficiency of the collection device, in percent, as determined in Section VI.B.1.
- CE_{CONTROL} = Control Efficiency of the control device, in percent, as determined in Section IV.B.2.

C. Determination of VOC Emissions

- The emissions of VOCs, measured and calculated as carbon, shall be determined by using EPA Test Method 25, 25A, or 25B, as applicable. EPA Test Method 18 or CARB Method 422 shall be used to determine the emissions of exempt compounds.
- Total VOC emissions per day shall be determined for each source operation by using the following equation:

$$E_{\text{Total}} = \left[\left(\sum_{i=1}^k L_i V_i \right) + \left(\sum_{m=1}^n L_m V_m \times (1 - CE / 100\%) \right) \right] / 454$$

Where:

ETotal	=	Total VOC emissions, in pounds per day
Li	=	Liters per day used of the “i”th organic solvent that is uncontrolled
Vi	=	Grams of VOC per liter of material of the “i”th organic solvent that is uncontrolled
Lm	=	Liters per day used of the “m”th organic solvent that is controlled
Vm	=	Grams of VOC per liter of material of the “m”th organic solvent that is controlled
CE	=	Overall capture and control efficiency of the control device, in percent, as determined in Section VI.B.3.

D. Multiple Methods of Determination

VOC emissions and overall capture and control efficiency determined to exceed any limits established by this rule through the use of any of the above-referenced test methods and equations shall constitute a violation of the rule.

VII. Compliance Schedule

- A. An owner/operator of an existing facility subject to this Rule and not meeting VOC emission limits listed in section IV.F shall comply with the following schedule:
 - 1. By March 31, 2023, submit to the Control Officer an Emission Control Plan pursuant to section V.B, and complete application for an Authority to Construct, if necessary to modify potential to emit.
 - 2. By September 8, 2025, demonstrate full compliance with Section IV.F of this Rule

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