

**RULE 66.1 MISCELLANEOUS SURFACE COATING OPERATIONS AND OTHER PROCESSES EMITTING VOLATILE ORGANIC COMPOUNDS** (Adopted 2/24/10; Rev. Adopted & Effective 5/11/16)

(a) **APPLICABILITY**

(1) This rule is applicable to all surface coating, solvent cleaning or other operations or processes that may result in emissions of VOCs and are not subject to or exempt from, the following rules:

- 67.0.1 - Architectural Coatings;
- 67.2 - Dry Cleaning Equipment Using Petroleum Based Solvents;
- 67.3 - Metal Parts and Products Coating Operations;
- 67.4 - Metal Container, Metal Closure and Metal Coil Coating Operations;
- 67.5 - Paper, Film and Fabric Coating Operations;
- 67.6.1 - Cold Solvent Cleaning and Stripping Operations;
- 67.6.2 - Vapor Degreasing Operations;
- 67.9 - Aerospace Coating Operations;
- 67.10 - Kelp Processing and Bio-Polymer Manufacturing Operations;
- 67.11 - Wood Products Coating Operations;
- 67.12.1 - Polyester Resin Operations;
- 67.15 - Pharmaceutical and Cosmetic Manufacturing Operations;
- 67.16 - Graphic Arts Operations;
- 67.18 - Marine Coating Operations;
- 67.19 - Coatings and Printing Inks Manufacturing Operations;
- 67.20.1 - Motor Vehicle and Mobile Equipment Coating Operations;
- 67.21 - Adhesive Materials Application Operations;
- 67.24 - Bakery Ovens;
- 61.1 through 61.8 – Vapor Recovery Rules;
- 68 through 69.4.1 – Rules Regulating Combustion Sources.

(2) Section (g) of this rule is applicable to any manufacturer, seller or supplier of any coating, coating component, solvent cleaning material, or any other VOC containing material that is used in an operation that may be subject to this rule.

(b) **EXEMPTIONS**

(1) This rule shall not apply to the following:

- (i) Surface coatings, surface preparation or solvent cleaning materials applied using hand-held non-refillable aerosol spray containers.
- (ii) Any surface coating operation where 20 gallons or less of surface coatings are applied per consecutive 12-month period. To claim applicability of this exemption monthly coating usage records shall be maintained on site for three years and made available to the District upon request.

(iii) Any surface coating or other VOC emitting operation where the total VOC emissions, excluding emissions from cleaning or surface preparation materials, are 150 lbs or less per consecutive 12-month period. To claim applicability of this exemption all records necessary to calculate VOC emissions shall be maintained on site for three years and made available to the District upon request.

(iv) The use of pesticides, including insecticides, rodenticides or herbicides.

(v) Research and development operations or testing for quality control or quality assurance purposes.

(vi) Operations involved in the manufacture of biotechnology pharmaceutical and bio-agricultural products that are exempt from the District permit to operate requirements by Rule 11, Section (d).

(vii) Laboratory operations located at secondary schools, colleges, or universities and used exclusively for instruction.

(viii) Touch-up operations.

(ix) Stripping of cured inks, coatings and adhesives.

(x) Digital printing operations.

(xi) Any solvent cleaning, including wipe cleaning, or surface preparation of electrical or electronic components, medical devices, laser optics or precision optics components.

(xii) Surface preparation or solvent cleaning, including wipe cleaning, for quality control or quality assurance purposes.

(xiii) Surface preparation or solvent cleaning, including wipe cleaning, for routine janitorial maintenance, including graffiti removal.

(ix) Any solvent cleaning, including wipe cleaning, performed in conjunction with welding of 5XXX series aluminum structures for Navy ships and in accordance with quality assurance standards for such structures.

(2) Subsection (d)(2) and Section (f) shall not apply to:

(i) Any cleaning or surface preparation operation, including wipe cleaning, necessary to achieve the required purity of surfaces for precision welding or thermal spray operations used in the manufacture of gas turbine engines, provided that the combined total amount of such cleaning materials used for these operations at the stationary source does not exceed 50 gallons per consecutive 12 months.

(ii) Any surface preparation or solvent cleaning, including wipe cleaning, associated with a coating operation, provided the use of such cleaning materials does not exceed 20 gallons per consecutive 12 months or the VOC emissions from such cleaning materials do not exceed 150 lbs per consecutive 12 months.

(iii) Any surface preparation or solvent cleaning, including wipe cleaning, not associated with a coating operation, where the combined total amount of cleaning materials used at the stationary source does not exceed 550 gallons per consecutive 12 months or the total VOC emissions from all such cleaning materials used at the stationary source do not exceed 3,650 lbs per consecutive 12 months.

To claim the applicability of the exemptions in Subsections (b)(2), all records of monthly purchase or usage of cleaning materials, their VOC content, vapor pressure, or any other data necessary to calculate VOC emissions, as applicable, shall be maintained on site for three years and made available to the District upon request.

(c) **DEFINITIONS**

For the purpose of this rule the following definitions shall apply:

(1) **"Aerospace Component"** means any raw material, partial or completed fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile or space vehicle, including mockups, test panels and prototypes, and associated electrical and electronic components.

(2) **"Air-Dried Coating"** means any coating that is not heated above 90°C (194°F) for the purpose of curing or drying.

(3) **"Baked Coating"** means any coating that is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).

(4) **"Biotechnology"** means the use of living organisms and/or biological processes often combined with chemical processes to develop products used in a variety of fields such as medicine, agriculture, and food production. Biotechnology industry includes, but is not limited to, medicinal drug manufacturing, peptide synthesis and DNA synthesis.

(5) **"Coating"** means a material which can be applied as a thin layer to a substrate, and which either dries or cures to form a continuous solid film or impregnates a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, lacquers, and stains but exclude adhesives.

(6) **"Digital Printing Operation"** means an operation that uses a printing device guided by a computer-driven machine to transfer an electronic image to a substrate through the use of inks, toners, or other graphic materials. Digital printing operations also include associated surface preparation, solvent cleaning, and the cleaning of application equipment.

(7) **"Dip Coat"** means a coating application method accomplished by dipping an object into the coating material.

(8) **"Electrical Components"** means internal components such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generate or transmit electrical energy including, but not limited to, generators, transformers, and electric motors.

(9) **"Electronic Components"** means components or assemblies of components including, but not limited to, circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the cabinet in which the components are to be housed.

(10) **"Electrostatic Spray"** means a coating application method accomplished by charging atomized paint particles for deposition by electrostatic attraction.

(11) **"Exempt Compound"** means the same as defined in Rule 2.

(12) **"Existing Operation or Process"** means a surface coating operation or other process emitting VOCs for which a complete application for an Authority to Construct in San Diego County was submitted before May 11, 2016. Wipe cleaning operations that are exempt from permit requirements per Rule 11 before May 11, 2016, are considered existing operations.

(13) **"Flow Coat"** means a coating application method accomplished by flowing a stream of coating over an object.

(14) **"Hand Application Method"** means a coating application method accomplished by applying a coating by manually held, non-mechanically operated equipment. Such equipment includes, but is not limited to, paintbrushes, hand rollers, rags and sponges.

(15) **"High-Volume Low-Pressure (HVLP) Spray"** means a coating application method which uses pressurized air at a permanent pressure between 0.1 and 10.0 psig, not to exceed 10.0 psig, measured at the air cap of the coating application system.

(16) **"Low-Solids Coating"** means a coating containing one pound of solids or less per gallon of material, as supplied.

(17) **"Medical Device"** means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article including any component or accessory, that is intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment, or prevention of disease, or is intended to affect the structure or any function of the body. For the purposes of Subsection (d)(2) of this rule, a medical device also includes any associated manufacturing or assembly apparatus (e.g., molds, medical device parts, or sub-components).

(18) **"New Operation or Process"** means a surface coating operation or other process emitting VOCs for which a complete application for an Authority to Construct in San Diego County was submitted on or after May 11, 2016.

(19) **"Organic Solvent"** means any substance containing an organic compound or combination of organic compounds which is liquid at atmospheric pressure and ambient temperature and which is used as a reactant, diluent, thinner, dissolver, viscosity reducer, or cleaning agent, or for other similar purposes.

(20) **"Operation"** means any process that includes one or more pieces of equipment linked by the process flow and resulting in a product that cannot be made if any piece of equipment is removed or not functioning.

(21) **"Precision Optics Components"** means the components used to create high resolution images in optical devices.

(22) **"Research and Development Operation"** means a small scale operation for the purpose of creating new or improved processes or products, that is conducted by technically trained personnel under the supervision of a research director, and may not be used to manufacture products or byproducts for sale or exchange for commercial profit, other than the first-article deliverable product.

(23) **"Roll Coat"** means a coating application method accomplished by rolling a coating onto a flat surface using a roll applicator.

(24) **"Solvent"** means any organic solvent.

(25) **"Source"** means any article, machine, equipment, contrivance, operation or a group of such articles, machines, equipment, contrivances or operations that emits or may emit volatile organic compounds.

(26) **"Solvent Cleaning"** means the removal of uncured adhesives, inks, coatings, and other contaminants such as dirt, soil, and grease from parts, products, tools, machinery, equipment or general work area. For the purposes of this rule, solvent cleaning does not include the cleaning of soiled textile materials or the use of solvent for regeneration.

(27) **"Surface Preparation"** means the cleaning of surfaces by utilizing cleaning materials containing VOCs prior to coating, further treatment, sale or intended use.

(28) **"Surface Coating" or "Surface Coating Operation"** means all steps involved in the application, drying and curing of coatings.

(29) **"Touch-up Operation"** means the portion of a surface coating operation which is incidental to the main coating process but necessary to cover minor imperfections or minor mechanical damage incurred prior to intended use.

(30) **"Volatile Organic Compound (VOC)"** means the same as defined in Rule 2.

(31) **"VOC Content per Volume of Coatings, Less Water and Exempt Compounds"** means the weight of VOC per combined volume of VOC and coating solids and is calculated by the equation provided in Rule 2.

(32) **"VOC Content per Volume of Cleaning Material or Low-Solids Coating"** means the weight of VOC per volume of cleaning material or low-solids coating and is calculated by the equation provided in Rule 2.

(33) **"Wipe Cleaning"** means a method of surface preparation or solvent cleaning that is not conducted in a container but performed by physically rubbing the surface with a material such as a rag, paper, sponge or cotton swab moistened with a cleaning material.

(d) **STANDARDS**

(1) Surface Coating and Other Operations

A person shall not conduct any surface coating or other operation, excluding surface preparation and solvent cleaning operations, that may result in emissions of volatile organic compounds unless one of the following requirements is satisfied:

(i) VOC emissions from such operation are less than 5 tons per calendar year, excluding emissions from cleaning operations; or

(ii) VOC emissions are reduced by air pollution control equipment in compliance with all the applicable requirements of Section (e); or

(iii) a surface coating operation is conducted by using air-dried coatings with a VOC content not higher than 420 grams/liter (3.5 lbs/gal) of coating, less water and exempt compounds, as applied, or by using baked coatings with a VOC content not higher than 360 grams/liter (3.0 lbs/gal) of coating, less water and exempt compounds, as applied.

(2) Surface Preparation and Solvent Cleaning Operations

A person shall not conduct a surface preparation or solvent cleaning operation, including wipe cleaning but excluding cleaning of coating application equipment, unless:

(i) the total VOC vapor pressure of cleaning material is 8 mm Hg at 20°C (68°F) or less, or

(ii) for Aerospace Components, not associated with a surface coating operation, 45 mm Hg at 20°C (68°F) or less; or

(iii) the VOC content of cleaning material complies with the following limits expressed as either grams of VOC per liter of material (g/L) or pounds of VOC per gallon of material (lb/gal), as used:

CATEGORY	VOC LIMITS	
	g/L	lb/gal
General	50	0.42
Aerospace Components	200	1.7
Ultra-High Purity Chemical Manufacturing	840	7.0

(3) Application Equipment for Surface Coating Operations.

(i) Coating Application Methods.

No surface coatings shall be applied unless one of the following application methods is used:

(A) Hand application method, or

(B) Dip coat, or

(C) Roll coat, or

(D) Flow coat, or

(E) Electrostatic spray, or

(F) High-volume low-pressure (HVLP) spray. Facilities using HVLP spray shall have available on site pressure gauges in proper operating conditions to measure air pressure at the air cup, or have manufacturer's information regarding the correlation between the air cap pressure and the handle inlet pressure, or

(G) Other coating application methods that are demonstrated to have a transfer efficiency equal at a minimum to one of the above application methods, and which are used in such a manner that the parameters under which they were tested are permanent features of the method. Such coating application methods shall be approved in writing by the Air Pollution Control Officer prior to use.

(ii) Cleaning of Coating Application Equipment

A person shall not use VOC containing materials for the cleaning of coating application equipment used in operations subject to this rule unless:

(A) The cleaning material contains 50 grams or less of VOC per liter of material; or

(B) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or

(C) The application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or its parts and provided that the cleaned equipment or its parts are drained to the container until dripping ceases; or

(D) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes.

**(e) CONTROL EQUIPMENT**

(1) In lieu of complying with the provisions of Section (d) of this rule, an owner/operator may use an air pollution control system which:

- (i) Has been installed in accordance with an Authority to Construct; and
- (ii) Has a combined emissions capture and control device efficiency of at least 85% by weight.

(2) A person electing to use control equipment pursuant to Subsection (e)(1) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control device and emission collection system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

- (i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(ii), such as temperature, pressure and/or flow rate; and
- (ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed record keeping practices regarding the key system operating parameters.

(3) Upon approval by the Air Pollution Control Officer, a person subject to the requirements of Section (e) shall implement the Operation and Maintenance plan and shall comply thereafter with the provisions of the approved plan.

**(f) RECORD KEEPING REQUIREMENTS**

(1) Any person conducting operations subject to this rule shall maintain a current list of each coating, solvent, or other VOC containing material in use, which provides the VOC content and all other data necessary to evaluate compliance, including but not limited to:

- (i) Manufacturer name and identification for each material containing VOCs; and



(ii) For coatings, other than low-solid coatings, the VOC content expressed in grams per liter (lbs/gal), less water and exempt compounds, as applied and mix ratio of components, if applicable; and

(iii) Actual oven drying temperature, if applicable; and

(iv) For surface preparation and cleaning materials or for low-solid coatings, the VOC content expressed in grams per liter (lbs/gal) of cleaning material or low-solids coating as used, and density and mix ratio of components, if applicable; and

(v) For other materials containing VOCs, other than surface coatings, surface preparation or cleaning materials, the VOC concentration per weight or volume of material.

(2) In addition, any person conducting operations subject to this rule shall:

(i) Maintain monthly records of the amount of each coating used; and

(ii) Maintain monthly inventory, purchasing or dispensing records for each surface preparation and cleaning material or other VOC containing materials used.

(3) In addition, any person using control equipment pursuant to Section (e) of this rule shall maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan pursuant to Subsection (e)(2). Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(ii) during periods of emission producing activities.

(4) All records shall be retained onsite for at least three years and made available to the District upon request.

**(g) MANUFACTURER AND SUPPLIER INFORMATION**

Any person, who manufactures, sells, offers for sale, or supplies to users in San Diego County any coating, coating component, solvent cleaning material, or any other VOC containing material that is used in an operation that may be subject to this rule shall provide the following information to customers:

(1) The manufacturer's name and identification of each coating or coating component, surface preparation material, equipment cleaning material or any other material containing VOCs; and

(2) The VOC content of coatings, as supplied, expressed in grams per liter or pounds per gallon, less water and exempt compounds; and

(3) The VOC content of low-solid coatings, as supplied, surface preparation or solvent cleaning materials or any other materials containing VOCs in grams per liter or pounds per gallon; and

(4) Any other necessary information enabling a user to comply with the requirements of Section (d) of this rule.

(h) **TEST METHODS**

When more than one test method or set of test methods are specified in this Section, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

(1) The VOC content of coatings containing more than 50 grams of VOC per liter of material shall be determined by the Environmental Protection Agency (EPA) Reference Method 24 (40 CFR Part 60, Appendix A, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings), September 1995, or by the South Coast Air Quality Management District (SCAQMD) Method 304-91 (Determination of Volatile Organic Compounds in Various Materials), February 1996.

(2) The VOC content of solvents or coatings containing 50 grams of VOC per liter of material or less shall be determined by the SCAQMD Method 313-91 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), February 1997, SCAQMD Method 308-91 (Quantitation of Compounds by Gas Chromatography), February 1993.

(3) The content of methyl acetate, acetone and parachlorobenzotrifluoride shall be determined in accordance with the ASTM Test Method D6133-02 (2014) (Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph), or its most current version.

(4) Measurements of exempt compound content, except for those determined in accordance with Subsection (g)(3), shall be conducted in accordance with the SCAQMD Test Method 303-91 (Determination of Exempt Compounds), August 1996.

(5) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(2) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures", dated June 2004. If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsection (d)(2), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-10 (Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope), or its most current version.

(6) Measurements of transfer efficiency pursuant to Subsection (d)(3)(i)(G) of this rule shall be conducted in accordance with the SCAQMD "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 1989. The equivalency of coating application equipment pursuant to Subsection (d)(3)(i)(G) shall be determined by the SCAQMD "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns," September 2002.

(7) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(1)(ii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Test Methods 25A and/or 18 (40 CFR Part 60, Appendix A), both dated September 1996, and in accordance with a protocol approved by the Air Pollution Control Officer.

(8) Capture efficiency of an emission collection system pursuant to Subsection (e)(1)(ii) shall be determined according to EPA Test Method 204 and 204A through 204F (40 CFR Part 51, Appendix M), as applicable, dated June 1997, and technical document, "Guidelines for Determining Capture Efficiency," dated January 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as approved by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(9) Other test methods which are determined to be equivalent to the test methods specified in this rule and approved, in writing, by the Air Pollution Control Officer, California Air Resources Board, and EPA may be used in place of the test methods specified in this rule.

(i) **COMPLIANCE SCHEDULE**

(1) All new operations or processes subject to this rule shall comply with all applicable requirements upon initial startup.

(2) All existing operations or processes subject to this rule shall comply with all applicable requirements no later than May 11, 2017.

(3) The owner or operator of an existing operation that chooses to comply with the rule by installing air pollution control equipment pursuant to Section (e) of this rule shall:

(i) By November 11, 2016, submit to the Air Pollution Control Officer an application for an Authority to Construct and a Permit to Operate an air pollution control system as specified in Section (e).

(ii) By November 11, 2017, comply with all applicable rule requirements.