VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 74.6 - SURFACE CLEANING AND DEGREASING
(Adopted 5/29/79, Revised 1/20/81, 7/5/83, 9/12/89, 5/8/90, 12/10/91, 7/9/96, 11/10/98, 1/8/02, 11/11/03, XX/XX/20 ~~- effective 7/1/04~~)

A. Applicability

The requirements of this rule shall apply to any person who performs solvent cleaning activities, and any person who manufactures or supplies solvents for use in solvent cleaning activities in Ventura County, except as noted in Section E of this rule. This rule does not apply to the use of solvent with an ROC content of 25 grams per liter or less.

B. Requirements

1. Solvent Requirements

a) On or before December 31, 2021, n~~N~~o person shall perform solvent cleaning using solvent that exceeds the following limits:

Solvent Cleaning Activity	Maximum Limits (As Applied) ROC Composite Partial Pressure (mm Hg @ 20°C)		ROC Content (grams/liter)
Application equipment cleanup and all other cleanup of uncured coatings, adhesives, inks, or resins	33	And	900
Cleaning of electronic components, electrical apparatus components, medical devices, or aerospace components	33	And	900
All other solvent cleaning	----		25

b) On or after January 1, 2022, no person shall perform solvent cleaning using solvent that exceeds the following limits:

Solvent Cleaning Activity	Maximum Limits (As Applied) ROC Content (grams/liter)
Application equipment cleanup and all other cleanup of uncured	

coatings, adhesives, inks, or resins	25
Cleaning of electronic components, electrical apparatus, or aerospace components conducted inside a degreaser	100
Medical devices and pharmaceuticals, including repair and maintenance of tools, equipment and machinery	800
Medical devices and pharmaceuticals – general work surfaces cleaning	600
All other solvent cleaning —	25

2. Cleaning Devices and Methods Requirements

No person shall perform solvent cleaning using a solvent with an ROC content greater than 25 grams per liter unless one of the following cleaning devices or methods is used:

a. Wipe cleaning where solvent is dispensed to wipe cleaning materials from containers that are kept closed to prevent evaporation, except while dispensing solvent or replenishing the solvent supply;

b. Non-atomized solvent flow, dip, or flush method where pooling on surfaces being cleaned is prevented or drained, and all solvent runoff is collected in a manner that enables solvent recovery or disposal. The collection system shall be kept closed to prevent evaporation except while collecting solvent runoff or emptying the collection system;

If the cleaning method has a solvent capacity more than one gallon, a cold cleaner or remote reservoir cold cleaner meeting the equipment and operating requirements of Section C and D of this rule shall be used to comply with this subsection.

c. Application of solvent from a hand held spray bottle, squirt bottle or other closed container with a capacity of one liter or less;

d. A properly used enclosed gun washer or low emission spray gun cleaner.

3. Prohibitions

a. No person shall allow liquid cleaning solvent to leak from any equipment or container.

b. No person shall specify, solicit, supply, or require any cleaning solvent or solvent cleaning equipment intended for uses governed by this rule if such use would violate this rule. This prohibition applies to all written and oral contracts under which solvent cleaning operations subject to this rule are to be conducted at any location in Ventura County.

c. No person shall use more than one gallon per week of solvents containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, or chloroform, or any combination of these solvents, in a total concentration greater than 5 percent by weight, for cold cleaning except in a cold cleaner operated in accordance with National Emission Standards for Halogenated Solvent Cleaning, 40 CFR Parts 9 and 63, Subpart T, Sections 63.460 through 63.469 (Degreasing MACT Standards). Any person that uses the above solvent in quantities less than one gallon per week shall maintain records of the volume and formulation of such solvent on an as-used basis (recording use each day such material is used). Records shall be saved for at least two (2) years from the date of each record and shall be made available to District personnel upon request.

4. Storage and Disposal

a. All ROC-containing solvents shall be stored in non-absorbent, non-leaking containers that shall be kept closed at all times except when filling or emptying.

b. Waste solvent and waste solvent residues shall be disposed of properly. Spent cleanup solvents may be classified as hazardous waste. The owner or operator shall obtain approval from applicable local, state, or federal water pollution control agency prior to disposing of spent solvents into the sewer or storm drain systems ~~in a manner conforming with Division 20, Chapter 6.5 of the California Health and Safety Code~~.

5. Control Equipment: In lieu of the requirements of subsections B.1 and B.2 of this rule, solvent cleaning emissions may be controlled by an emission control system that maintains a combined capture and control efficiency of at least 85 percent, by weight, of the emissions generated by the solvent cleaning activity, and results in an emission rate lower than that achieved by section B.1 and B.2 of this rule, as approved in writing by the APCO.

~~6 Alternative Cleaning System: In lieu of the requirements of subsections B.1 and B.2 of this rule, solvent cleaning emissions may be controlled by using a cleaning device or mechanism, and its associated operating parameters, that has been~~

~~approved in writing by both the APCO and the USEPA and results in an emission rate lower than that achieved by subsections B.1 and B.2 of this rule~~

6.~~7.~~ Compliance Statement Requirement: The manufacturer of any solvent subject to this rule shall designate on the solvent container or on separate data sheets the maximum volatile organic compound (VOC) content ~~and the ROC Composite Partial Pressure of the solvent,~~ as supplied. The VOC content shall be expressed as grams of VOC per liter of material. ~~The ROC Composite Partial Pressure of the solvent shall be expressed as mm Hg @ 20°C~~. On or before December 31, 2021, any solvent manufactured and intended for use in compliance with the ROC composite partial pressure limits in subsection B.1 shall list the ROC composite partial pressure of the solvent expressed as mm Hg @ 20°C.

C. Equipment Requirements for Cold Cleaners

1. All cold cleaners, except remote reservoir cold cleaners, shall be equipped with the following devices:

a. A drying rack suspended above the solvent, or other facility for draining cleaned parts such that the drained solvent is returned to the cleaner.

b. A cover that prevents the solvent from evaporating when not processing work in the cleaner. If high volatility solvent is used, the cover must be a sliding, rolling, or guillotine (bi-parting) type that is designed to easily open and close, or it must be designed to be easily operated with one hand.

c. A freeboard height of at least 6 inches (15.2 centimeters), if low volatility solvent is used.

d. At least one of the following control devices, if high volatility solvent is used:

1) A freeboard height such that the freeboard ratio is at least 0.75.

2) A water cover if the solvent is insoluble in and heavier than water.

3) An emission collection and control system meeting the requirements of subsection B.5.

e. A permanent conspicuous mark locating the maximum allowable solvent level that conforms with the applicable freeboard height requirement in Subsection C.1.c or Subsection C.1.d.1.

f. A permanent conspicuous label or sign summarizing the applicable operating requirements appropriate for cold cleaning operations.

2. Remote reservoir cold cleaners shall be equipped with the following devices:

a. A permanent conspicuous label or sign summarizing the applicable operating requirements appropriate for cold cleaning operations.

b. A sink-like work area that is sloped sufficiently towards the drain to preclude pooling of solvent.

c. A single drain hole, less than 100 square centimeters (15.5 square inches) in area, for the solvent to flow from the sink into the enclosed reservoir.

d. A freeboard height of at least 6 inches (15.2 centimeters).

e. A cover for the drain when no work is being processed in the cleaner and high volatility solvent is used. If low volatility solvent is used, a cover is not required.

D. Operating Requirements for Cold Cleaners

Any person who operates a cold cleaner shall conform to the following operating requirements:

1. The operator shall drain cleaned parts of all solvent until dripping ceases to ensure that the drained solvent is returned to the cleaner.

2. Solvent agitation, where necessary, shall be achieved using pump recirculation, a mixer, or ultrasonics. Air agitation shall not be used unless a control system meeting the requirements of subsection B.5 is used.

3. If a solvent flow is utilized, only a solid fluid stream (not a fine, atomized, or shower type spray) shall be used unless a control system meeting the requirements of subsection B.5 is used.

4. The pressure of the solvent flow system shall be such that liquid solvent does not splash outside the container.

~~6~~5. No person shall remove or open any required device designed to cover the solvent unless work is being processed in the cleaner or maintenance is being performed on the cleaner.

~~7~~6. The cleaning equipment and emission control equipment shall be operated and maintained in proper working order.

~~8~~7. The cleaning of porous or absorbent materials such as cloth, leather, wood, or rope is prohibited. This provision shall not apply to paper gaskets or paper filters.

E. Exemptions

1. This rule shall not apply to:

a. Cleaning activities using Clean Air Solvent, or a solvent with an ROC-content no more than 25 grams per liter as applied.

b. The use of up to 160 fluid ounces of non-refillable aerosol cleaning products per day, per facility.

c. Janitorial cleaning including graffiti removal.

d. Cleaning carried out in vapor degreasers or motion picture film cleaning equipment.

~~e. Any cleaning device or mechanism regulated by National Emission Standards for Halogenated Solvent Cleaning, 40 CFR Parts 9 and 63, Subpart T, Sections 63.460 through 63.469 (Degreasing MACT Standards).~~

~~f~~e. Cleaning operations subject to any of the following rules:

Rule 74.3, Paper, Fabric and Film Coating Operations
Rule 74.5.1, Petroleum Solvent Dry Cleaning
Rule 74.5.2, Synthetic Solvent Dry Cleaning
Rule 74.19, Graphic Arts Operations
Rule 74.19.1, Screen Printing Operations
Rule 74.21, Semiconductor Manufacturing

~~g~~f. Stripping of cured coating (e.g.; stripping), cured adhesive (e.g.; debonding, unglueing), cured ink, or cured resin.

~~h~~g. The use of solvent for purposes other than solvent cleaning activities.

2. Subsection B.1 of this rule shall not apply to:

a. Cleaning operations required to comply with any ROC content and/or composite vapor pressure limit in any of the following rules:

Rule 74.12, Surface Coating of Metal Parts and Products
Rule 74.13, Aerospace Assembly and Component Manufacturing Operations
Rule 74.14, Polyester Resin Material Operations
Rule 74.18, Motor Vehicle and Mobile Equipment Coating Operations
Rule 74.20, Adhesives and Sealants
Rule 74.24, Marine Coating Operations

Rule 74.24.1, Pleasure Craft Coating Operations
Rule 74.30, Wood Products Coatings

b. Cleaning of ultraviolet lamps used to cure ultraviolet inks coatings, adhesives or resins.

c. Cleaning of solar cells, laser hardware, scientific instruments, or high-precision optics.

d. Cleaning conducted in laboratory tests and analyses including quality assurance/quality control applications, or bench scale or short-term (less than 2 years) research and development programs.

e. Removal of elemental sodium from the inside of pipes and lines.

f. Cleaning of mold release compounds from molds.

g. Cleaning of tools used to cut or abrade cured magnetic oxide coatings.

h. Cleaning of aerospace assembly and subassembly surfaces that are exposed to strong oxidizers or reducers such as nitrogen tetroxiode, liquid oxygen or hydrazine.

i. Cleaning of paper gaskets.

j. Cleaning of clutch assemblies where rubber is bonded to metal by means of an adhesive.

k. Cleaning of hydraulic actuating fluid from filters and filter housings.

l. Removal of explosive materials and constituents from equipment associated with manufacturing, testing or developing explosives.

~~m. Manufacturing cleaning of nuts and bolts designed for automotive racing applications, in a cold cleaner complying with sections C and D of this rule using solvent with an ROC content no more than 900 grams per liter and a ROC composite partial pressure no more than 5 mm Hg @ 20C.~~

~~n. Cleaning of precision lapped mechanical seals in pumps that handle liquefied gasses, in a cold cleaner complying with sections C and D of this rule using solvent with an ROC content no more than 900 grams per liter and a ROC composite partial pressure no more than 5 mm Hg @ 20C.~~

~~o~~m. Facility wide use of less than 1 gallon per week of non-compliant solvent where compliant solvents are not available. Any person claiming this exemption shall maintain records of the volume and formulation of non-

compliant solvent used on an as-used basis (recording use each day such material is used). Records shall be saved for at least ~~two~~ five (~~2~~5) years from the date of each record and shall be made available to District personnel upon request.

3. Subsections B.1 and B.2 shall not apply to aircraft engine gas path cleaning or stationary gas turbine gas path cleaning using solvent with an ROC content of 200 g/l or less, as applied.

F. Recordkeeping Requirements

The following records are required to demonstrate compliance with Rule 74.6. Records shall be saved for at least ~~two~~ five (~~2~~5) years from the date of each record. All such records shall be made available to District personnel upon request.

1. Maintain a current material list showing each ROC containing material used in solvent cleaning activities. The list shall summarize the following information:

   a. Solvent name and manufacturer's description.

   b. All intended uses of the solvent at the facility, classified as follows:

      1) Cleanup, including application equipment cleaning, or
      2) Cleaning of electronic components, electrical apparatus components, medical devices, or aerospace components, or
      3) Solvent used pursuant to an exemption in Section E (specify the exemption claimed) or

   c. The ROC content in units of grams of ROC per liter of material (and ROC composite partial pressure in units of mm Hg @ 20C, if applicable) of the solvent.

   d. If the solvent is a mix of materials blended by the operator, record the mix ratio.

2. When compliance is achieved through the use of add-on control equipment pursuant to section B.5 of this rule, maintain records on a daily basis of key operating parameters for the emission control equipment, including, but not limited to:

   a. Hours of Operation;

   b. Routine and nonroutine maintenance; and

   c. All information needed to demonstrate continuous compliance with section B.5 of this rule, such as temperatures, pressures, and or flowrates.

G. Test Methods

The following test methods shall apply. Other test methods determined to be equivalent and approved in writing by both the APCO and USEPA may also be used.

1. The ROC content of materials shall be determined by EPA Test Method 24. (40 C.F.R. 60, Appendix A). The ROC content of materials containing 50 g/l of ROC or less shall be determined by the most recent version of South Coast Air Quality Management District (SCAQMD) Method 313 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry) or any other alternative test methods approved by the U.S. EPA, CARB, and the District.

2. The control efficiency of a ROC collection device shall be determined using the U.S. EPA methods 2, 2A or 2D for measuring flow rates and EPA Methods 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the ROC emission control device. U.S. EPA Method 18 or CARB Method 422 shall be used to determine the emissions of exempt compounds~~by "Guidelines for Determining Capture Efficiency" EPA 1/9/95.~~

3. The efficiency of a collection device shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:

   a. Applicable U.S. EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
   b. Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

~~3. The efficiency of a control device shall be determined by EPA Method 25 or 25A.~~

4. The identity of components in solvents shall be determined using manufacturer's formulation data or by using ASTM E168-67, ASTM E169-87, or ASTM E260-85.

5. On or before December 31, 2021, ROC composite partial pressure of a solvent shall be calculated using a widely accepted published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances", Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company; CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87), and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985). The true vapor pressure of a component in a solvent mix may be determined by ASTM Method D2879-86. The ROC composite partial pressure of

a solvent mix consisting entirely of ROC may be determined by ASTM Method D2879-86.

5~~6~~. The active and passive solvent losses from spray gun cleaning systems shall be determined using South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" dated October 3, 1989. The test solvent for this determination shall be any lacquer thinner with a minimum vapor pressure of 105 mm Hg at 20 ^{o}C. The minimum test temperature shall be 15 ^{o}C.

7. Initial boiling point of solvent shall be determined by ASTM 1078-78 or by using a published source such as listed in subsection G.5.

H. Violations

Failure to comply with any provision of this rule shall constitute a violation.

I. Definitions

1. "Adhesive": A substance that is used to bond one surface to another.

2. "Aerosol Product": A hand-held non-refillable container that expels pressurized product by means of a propellant induced force.

3. "Aerospace Component": Any raw material, partial or completed fabricated part, assembly of parts, or completed unit of any aircraft, helicopter, missile, or space vehicle, including mockups and prototypes.

4. "Application Equipment": Equipment used to apply coatings, inks adhesives or resins including but not limited to: spray guns, rollers, brushes, and printing presses. Most application equipment cleanup activities are regulated by source specific rules rather than Rule 74.6.

5. "Clean Air Solvent": A solvent certified by the South Coast Air Quality Management District as a Clean Air Solvent.

6. "Cleanup": The removal of uncured coating, adhesive, ink or resin from any surface, including application equipment, oversprayed surfaces, and hands.

7. "Coating": A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.

8. "Cold cleaner": Any batch operated equipment designed to contain liquid solvent that is operated below the solvent's boiling point to carry out solvent cleaning operations.

9. "Cured Coating, Cured Ink, Cured Adhesive, or Cured Resin": Coating, ink, adhesive or resin that is dry to the touch.

10. "Electrical Apparatus Components": Components such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generates or transmits electrical energy including, but not limited to: alternators, generators, transformers, electric motors, cables, and circuit breakers, except for the actual cabinet in which the components are housed. Electrical components of graphic arts application equipment and hot-line tools are also included in this category.

11. "Electronic Component": That portion of an assembly, including circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the actual cabinet in which the components are housed.

12. "Freeboard height": For cold cleaners, freeboard height is the distance from the top of the solvent to the top of the tank. For remote reservoir cold cleaners, it is the distance from the top of the solvent drain to the top of the tank.

13. "Freeboard ratio": The freeboard height divided by the smaller of the length or width of the degreaser.

14. "Gun Washer": Electrically or pneumatically operated system that is designed to clean spray application equipment while enclosed. A gun washer may also be considered a gun cleaning system that consists of spraying solvent into an enclosed container using a snug fitting.

15. "High Precision Optic": An optical element used in an electro-optical device and is designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.

16. "High Volatility Solvent": Any solvent that is not low volatility solvent.

17. "Hot-Line Tool": A specialized tool used primarily on the transmission systems, sub-transmission systems and distribution systems for replacing and repairing circuit components or for other types of work with electrically energized circuits.

18. "Ink: Any fluid or viscous composition used in printing, impressing, or transferring an image onto a substrate.

19. "Janitorial Cleaning": The cleaning of building or facility components, such as the floor, ceiling, walls, windows, doors, stairs, bathrooms, furnishings and the exterior surfaces of office equipment. Janitorial Cleaning does not include the cleaning of process equipment such as piping, storage vessels and work benches.

20. "Liquid Leak": A visible liquid solvent leak from a container at a rate of three or more drops of liquid solvent per minute, or a visible liquid mist.

21. "Low emission spray gun cleaner": Any spray equipment cleanup device that has passive solvent losses of no more than 0.6 grams per hour and has active solvent losses of no more than 15 grams per operating cycle as defined by the test method in Subsection G.6.

22. "Low Volatility Solvent": Unheated solvent with an ROC composite partial pressure of 2 mm Hg or less @ 20°C.

23. "Medical Device": An instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article, including any component, raw material, or accessory, or any equipment primarily used to manufacture or repair such contrivance, that meets any one of the following conditions:

    a. It is intended for use in the diagnosis of disease or other condition, or in the cure, mitigation, treatment, or prevention of disease.

    b. It is intended to affect the structure or any function of the body.

    c. It is defined in the National Formulary or the United States Pharmacopoeia, or any supplement to them.

24. "Mold Release Compound": A substance applied to a mold, form or pattern to prevent materials from sticking to surfaces.

25. "Non-absorbent Containers": Containers made of nonporous material that do not allow the migration of liquid solvent through them.

26. "Non-atomized Solvent Flow": The use of a solvent in the form of a liquid stream without atomization.

27. Non-leaking Containers": Containers without liquid leaks.

28. "Passive Solvent Losses:" Emissions resulting from natural vaporization of solvent from spray gun cleaning equipment not being used in a cleaning cycle.

29. "Reactive Organic Compound (ROC)": As defined in Rule 2.

30. "Remote Reservoir Cold Cleaner": A device in which solvent is moved through a sink-like work area for cleaning parts and drains immediately, without forming a pool, through a single drain hole less than 100 square centimeters (15.5 square inches) in area into an enclosed container that is not accessible for soaking parts.

31. ROC Composite Partial Pressure": On or before December 31, 2020, ~~The~~ the sum of the partial pressures of the compounds defined as ROCs. ROC composite partial pressure is calculated as follows:

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

Where:

W_i = Weight of the "i"th ROC compound, in grams

W_w = Weight of water, in grams

W_e = Weight of the "e"th exempt organic compound, in grams

MW_i = Molecular weight of the "i"th ROC compound, in g/(g-mole)

MW_w = Molecular weight of water, in g/(g-mole)

MW_e = Molecular weight of the "e"th exempt compound, in g/(g-mole)

PP_c = ROC composite partial pressure at 20 C, in mm Hg

VP_i = Vapor pressure of the "i"th ROC compound at 20 C, in mm Hg.

32. "ROC Content": The ROC content of a solvent in units of grams of ROC per liter of material is calculated by the following equation:

$$\text{ROC Content} = \frac{Ws - Ww - Wes}{Vm}$$

Where: Ws = Weight of volatile compounds in grams
Ww = Weight of water in grams
Wes = Weight of exempt organic compounds in grams
Vm = Volume of material in liters

33. "Resin": An organic material with little or no tendency to crystallize that is used as the basic components of plastics and/or as a component of surface-coating formulations. Includes but is not limited to polyester resin and silicone polymers.

34. "Runoff": Liquid that flows or drips off of a surface being cleaned.

35. "Scientific Instrument": An instrument (including the components, assemblies, and subassemblies used in their manufacture) and associated accessories and reagents that is used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.

36. "Solvent": Any ROC-containing liquid used to perform solvent cleaning.

37. "Solvent Capacity": The volume of solvent contained in a solvent cleaning device. For a solvent cleaning device connected to a solvent supply reservoir by

piping or other passage, the solvent capacity is the volume of the solvent reservoir.

38. "Solvent Cleaning": The use of solvent to remove loosely held uncured adhesive, uncured ink, uncured coating, uncured resin, or other contaminants which include, but are not limited to, dirt, soil, lubricants, coolant, moisture, grease, and fingerprints from parts, products, tools, machinery, equipment, or general work areas.

39. "Stripping": The removal of cured coating, cured ink, cured adhesive, or cured resin.

40. "Thin Metal Laminating:" A process of bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mil.

41. "Volatile Organic Compound (VOC)": Shall have the same meaning as Reactive Organic Compounds (ROC) as defined in Rule 2 of these Rules.

42. "Wipe Cleaning": The method of cleaning a surface by physically rubbing it with a material or device such as a rag, paper, brush or cotton swab moistened with a solvent.