(Adopted August 2, 1991)(Amended May 12, 1995)(Amended September 13, 1996)
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(PAR 1171 – May 6, 2005)

PROPOSED AMENDED RULE 1171. SOLVENT CLEANING OPERATIONS

(a) Purpose and Applicability

The purpose of this rule is to reduce emissions of volatile organic compounds (VOCs), toxic air contaminants, and stratospheric ozone-depleting or global-warming compounds from the use, storage and disposal of solvent cleaning materials in solvent cleaning operations and activities., and from the storage and disposal of these materials used in A solvent cleaning operations, which is solvent cleaning conducted as part of a business. This rule applies to all persons who use VOC-containingthese solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas, and to all persons who store and dispose of theseVOC-containing materials used in solvent cleaning operations.

(b) Definitions

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

(1) AEROSOL PRODUCT is a hand-held, non-refillable container which expels pressurized product by means of a propellant-induced force.

(2) APPLICATION EQUIPMENT is a device used to apply adhesive, coating, ink, or polyester resin materials.

(3) APPLICATION LINE is that portion of a motor vehicle assembly production line which applies surface and other coatings to motor vehicle bodies, hoods, fenders, cargo boxes, doors, and grill opening panels.

(4) ARCHITECTURAL COATING is any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.

(5) BLANKET is a synthetic rubber mat used in offset-lithography to transfer or "offset" an image from a planographic printing plate to the paper or other substrate.

(6) BLANKET WASH is a solvent used to remove ink from the blanket of a press.

(7) CLEAN AIR SOLVENT is as defined in Rule 102.

(8) CLEAN AIR SOLVENT CERTIFICATE is a certificate issued by the District to a manufacturer, distributor, or person for a specific product or class of products that meets the criteria for a Clean Air Solvent.

(9) CURED COATING, CURED INK, OR CURED ADHESIVE is a coating, ink, or adhesive, which is dry to the touch.

(10) ELECTRICAL APPARATUS COMPONENTS is an internal component 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) ELECTRON BEAM INK is an ink that dries by chemical reaction caused by high energy electrons.

(12) ELECTRONIC COMPONENT is 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.

(13) EXEMPT COMPOUND is as defined in Rule 102.

(14) FACILITY means a business or businesses engaged in solvent cleaning operations which are owned or operated by the same person or persons and are located on the same or contiguous parcels.

(15) FLEXOGRAPHIC PRINTING is the method in which the image area is raised relative to the non-image area and utilizes flexible rubber or other elastomeric plate and rapid drying liquid inks.

(16) GENERAL WORK SURFACE is an area of a medical device or pharmaceutical facility where solvent cleaning is performed on work surfaces including, but not limited to, tables, countertops, and laboratory benches. General work surface shall not include items defined under janitorial cleaning.

(17) GRAMS OF VOC PER LITER OF MATERIAL is the weight of VOC per volume of material and can be calculated by the following equation:

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

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

(18) GRAPHIC ARTS are all gravure, letterpress, flexographic, and lithographic printing processes.

(19) GRAVURE PRINTING is an intaglio process in which the ink is carried in minute etched or engraved wells on a roll or cylinder. The excess ink is removed from the surface by a doctor blade.

(20) HIGH PRECISION OPTIC is 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.

(21) HOT-LINE TOOL is 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.

(22) INKJET PRINTING is a printing process in which images are formed by the precise placement of small (picoliter-sized) droplets of ink fired at high speeds from the nozzle(s) of computer-controlled printheads.

(23) JANITORIAL CLEANING is the cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, bathrooms, furnishings, and exterior surfaces of office equipment, and excludes the cleaning of work areas where manufacturing or repair activity is performed.

(24) LETTERPRESS PRINTING is the method in which the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.

(25) LIQUID LEAK is the visible liquid solvent leak from the container at a rate of more than three (3) drops per minute, or a visible liquid mist.

(26) LIQUID-TIGHT FOOD CONTAINER is a paperboard container that can hold liquid food and food products without leaking even when it is held upside-down.

(27) LITHOGRAPHIC PRINTING is a plane-o-graphic method in which the image and non-image areas are on the same plane.

(28) MAINTENANCE CLEANING is a solvent cleaning operation or activity carried out to keep clean general work areas where manufacturing or repair activity is performed, to clean tools, machinery, molds, forms, jigs, and equipment. This definition does not include the cleaning of coatings, adhesives, or ink application equipment.

(29) MANUFACTURING PROCESS is the process of making goods or articles by hand or by machinery.

(30) MEDICAL DEVICE is an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article, including any component or accessory, that meets one of the following conditions:

(A) it is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease; or

(B) it is intended to affect the structure or any function of the body; or

(C) it is defined in the National Formulary or the United States Pharmacopeia, or any supplement to them.

(31) NON-ABSORBENT CONTAINER is a container made of nonporous material, which does not allow the migration of the liquid solvent through it.

(32) NON-ATOMIZED SOLVENT FLOW is the use of a solvent in the form of a liquid stream without atomization to remove uncured adhesives, uncured inks, uncured coatings, and contaminants from an article.

(33) NON-LEAKING CONTAINER is a container without liquid leak.

(34) ON-PRESS COMPONENT is a part, component, or accessory of a press that is cleaned while still being physically attached to the press.

(35) PACKAGING PRINTING is any lithographic, flexographic, gravure, or letterpress printing that results in identifying or beautifying paper, paperboard, or cardboard products to be used as containers, enclosures, wrappings, or boxes.

(36) PERSON is any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or other capacity including any governmental entity or charitable organization.

(37) PHARMACEUTICAL PRODUCT is a preparation or compound of medicinal

drugs including, but not limited to, a prescription drug, analgesic, decongestant, antihistamine, cough suppressant, vitamin, mineral and herb, and is used by humans for consumption to enhance personal health.

(38) PHOTOCURABLE RESIN is a chemical material that solidifies upon exposure to light.

(39) PRINTING, in the graphic arts, is any operation that imparts color, design, alphabet, or numerals on a substrate.

(40) RADIATION-EFFECT COATING is a material that prevents radar detection.

(41) REMOTE RESERVOIR CLEANER is a cleaning device in which liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while parts are being cleaned.

(42) REMOVABLE PRESS COMPONENT is a part, component, or accessory of a press that is physically attached to the press but is disassembled and removed from the press prior to being cleaned. Rollers, blankets, metering rollers, dampening rollers, printing plates, fountains, impression cylinders and plates shall not be considered as removable press components.

(43) REPAIR CLEANING is a solvent cleaning operation or activity carried out during a repair process.

(44) REPAIR PROCESS is the process of returning a damaged object or an object not operating properly to good condition.

(45) ROLLER WASH is a solvent used to remove ink from the rollers of a press.

(46) SCIENTIFIC INSTRUMENT is 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.

(47) SCREEN PRINTING is a process in which the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint.

(48) SOLVENT is a VOC-containing liquid used to perform solvent cleaning.

(49) SOLVENT CLEANING is the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants which include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas. Each distinct method of cleaning in a cleaning process, which consists of a series of cleaning methods, shall constitute a separate solvent cleaning operation.

(50) SOLVENT FLUSHING is the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of the equipment by flushing solvent through the equipment.

(51) STEREOLITHOGRAPHY is a type of printing process that employs a system using a light to solidify photocurable resins in a desired configuration in order to produce a 3-dimensional object.

(52) SPECIALTY FLEXOGRAPHIC PRINTING is flexographic printing on polyethylene or polypropylene food packaging, fertilizer bags, or liquid-tight food containers.

(53) STERILIZATION INDICATING INK is an ink that changes color to indicate that sterilization has occurred. Such ink is used to monitor the sterilization of medical instruments, autoclave efficiency, and the thermal processing of foods for prevention of spoilage.

(54) STRIPPING is the removal of cured coatings, cured inks, or cured adhesives.

(55) SURFACE PREPARATION is the removal of contaminants such as dust, soil, oil, grease, etc., prior to coating, adhesive, or ink applications.

(56) ULTRAVIOLET INK is an ink that dries by polymerization reaction induced by ultraviolet energy.

~~(57) VOC COMPOSITE PARTIAL PRESSURE is the sum of the partial pressures of the compounds defined as VOCs. VOC Composite Partial Pressure is calculated as follows:~~

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

Where: W_i = Weight of the "i"th VOC compound, in grams

W_w = Weight of water in grams

W_e = Weight of exempt compound, in grams

MW_i = Molecular weight of the "i"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 mm Hg

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

(5~~8~~7) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(5~~9~~8) WIPE CLEANING is the method of cleaning a surface by physically rubbing it with a material such as a rag, paper, sponge or a cotton swab moistened with a solvent.

(c) Requirements

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS* VOC g/l (lb/gal)	Effective 7/1/2005* VOC g/l (lb/gal)	Effective 7/1/2006 VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	500 (4.2)	100 (0.83)	
(iii) Medical Devices & Pharmaceuticals	800 (6.7)		
(B) Repair and Maintenance Cleaning			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	900 (7.5)	100 (0.83)	
(iii) Medical Devices & Pharmaceuticals			
(A) Tools, Equipment, & Machinery	800 (6.7)		
(B) General Work Surfaces	600 (5.0)		
(C) Cleaning of Coatings or Adhesives Application Equipment	550 (4.6)	25 (0.21)	
(D) Cleaning of Ink Application Equipment			
(i) General	25 (0.21)		
(ii) Flexographic Printing	25 (0.21)		
(iii) Gravure Printing			
(A) Publication	750 (6.3)	100 (0.83)	
(B) Packaging	25 (0.21)		
(iv) Lithographic or Letter Press Printing			
(A) Roller Wash – Step 1	600 (5.0)	~~100~~500 (~~0.83~~4.2)	100 (0.83)
(B) Roller Wash-Step 2, Blanket Wash, & On-Press Components	800 (6.7)	~~100~~500 (~~0.83~~4.2)	100 (0.83)
(C) Removable Press Components	25 (0.21)		
(v) Screen Printing	750 (6.3)	~~100~~500 (~~0.83~~4.2)	100 (0.83)
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	800 (6.7)	~~100~~500 (~~0.83~~4.2)	100 (0.83)

	(vii) Specialty Flexographic Printing	600 (5.0)	100 (0.83)	
(E)	Cleaning of Polyester Resin Application Equipment	25 (0.21)		

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

(2) Cleaning Devices and Methods Requirements

A person shall not perform solvent cleaning unless one of the following cleaning devices or methods is used:

(A) Wipe cleaning;

(B) Closed containers or hand held spray bottles from which solvents are applied without a propellant-induced force;

(C) Cleaning equipment which has a solvent container that can be, and is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;

(D) Cleaning device which is listed in the Office of Operations' manual "Alternative Devices for Rule 1171 Compliance" dated July 1, 1991. The Executive Officer shall periodically update the manual to identify any additional cleaning devices determined by the Executive Officer to result in equivalent or lower emissions;

(E) Remote reservoir cleaner used pursuant to the provisions of paragraph (c)(3);

(F) Non-atomized solvent flow method where the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or

(G) Solvent flushing method where the cleaning solvent is discharged into a container which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

(3) Remote Reservoir Cleaners

Any person owning or operating a remote reservoir cleaner shall comply with all

of the following requirements in addition to the applicable VOC limits specified in paragraph (c)(1):

(A) Prevent solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;

(B) Direct solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cleaner;

(C) Do not clean porous or absorbent materials, such as cloth, leather, wood, or rope; and

(D) Use only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. Any liquid leak, visible tear, or crack detected shall be repaired within one (1) calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all solvent and shut down until it is replaced or repaired.

(4) Storage and Disposal

All VOC-containing solvents used in solvent cleaning operations shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except when filling or emptying. It is recommended that cloth and paper moistened with VOC-containing solvents be stored in closed, non-absorbent, non-leaking containers.

(5) Control Equipment

In lieu of complying with the requirements in paragraphs (c)(1) or (c)(2), a person may comply by using a VOC emission collection and control system in association with the solvent cleaning operation provided:

(A) the emission control system shall collect at least 90 percent, by weight, of the emissions generated by the solvent cleaning operation and

(i) have a destruction efficiency of at least 95 percent, by weight, or

(ii) have an output of less than 50 parts per million (PPM) calculated as carbon with no dilution; or

(B) the emission control system meets the requirements of the applicable source specific rule of the District's Regulation XI. The collection system for cleaning in graphic arts and screen printing and cleaning of application equipment used for graphic arts materials

and screen printing materials, shall collect at least 70 percent, by weight, of the emissions generated. This control system shall reduce emissions from the emission collection system by at least 95 percent.

(6) Recordkeeping Requirements

Records shall be maintained pursuant to Rule 109 for all applications subject to this rule, including those exempted under paragraphs (h)(3) through (h)(8), except facilities required to keep records of VOC used pursuant to any other Regulation XI rules.

(d) Technology Assessment

By ~~July~~December 1, 200~~4~~5, the Executive Officer shall complete a Technology Assessment for the year 200~~5~~6 VOC limits for the following categories:

~~(1) The cleaning of electrical apparatus components and electronic components as specified in clauses (c)(1)(A)(ii) and (c)(1)(B)(ii).~~

~~(2) The cleaning of coating and adhesive application equipment as specified in subparagraph (c)(1)(C).~~

(~~3~~1) The cleaning of lithographic and letterpress printing ink application equipment as specified in subclauses (c)(1)(D)(iv)(A) thru (~~C~~B).

(~~4~~2) The cleaning of screen printing ink application equipment as specified in clause (c)(1)(D)(v).

(~~5~~3) The cleaning of ultraviolet or electron beam ink application equipment as specified in clause (c)(1)(D)(vi).

~~(6) The cleaning of specialty flexographic printing ink application equipment as specified in clause (c)(1)(D)(vii).~~

~~The technology assessment shall include a study of the effect of vapor pressure on the total mass emissions of VOCs from the use of cleaning solvents.~~ After the assessments, the Executive Officer shall report to the Governing Board as to the progress in technology development and whether future amendments are necessary.

(e) General Prohibitions

(1) A person shall not atomize any solvent unless it is vented to an air pollution control equipment, which meets the requirements of paragraph (c)(5).

(2) A person shall not specify or require any person to use solvent or equipment subject to the provisions of this rule that does not meet the requirements of this rule.

(3) A person shall not perform solvent cleaning activities or operations subject to the provisions of this rule with any material which contains Group II exempt compounds listed in Rule 102 except ~~methylene chloride,~~ cyclic, branched, or linear, completely methylated siloxanes (VMS)~~, and perchloroethylene~~.

(4) Any person subject to the Airborne Toxic Control Measure for Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance and Repair Activities - Title 17, California Code of Regulations, section 93111, shall comply with its provisions.

(f) Test Methods

For the purpose of this rule, the following test methods shall be used. Other test methods determined to be equivalent after review by the staffs of the District, the Air Resources Board, and the United States Environmental Protection Agency, and approved in writing by the District Executive Officer may also be used.

(1) Determination of VOC Content

The VOC content of materials subject to the provisions of this rule shall be determined by the following methods:

(A) United States Environmental Protection Agency (USEPA) Reference Method 24 (Code of Federal Regulations, Title 40, Part 60, Appendix A). The exempt compounds' content shall be determined by the South Coast Air Quality Management District's (SCAQMD) Method 303 (Determination of Exempt Compounds) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual; or,

(B) SCAQMD Method 304 [Determination of Volatile Organic Compounds (VOC) in Various Materials] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

(C) Exempt Perfluorocarbon Compounds

The following classes of compounds:

cyclic, branched, or linear, completely fluorinated alkanes;

cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

sulfur-containing perfluorocarbons with no unsaturations and with

sulfur bonds only to carbon and fluorine,

will be analyzed as exempt compounds for compliance with subdivision (c), only when manufacturers specify which individual compounds are used in the solvent formulation and identify the United States Environmental Protection Agency, California Air Resources Board, and the District approved test methods used to quantify the amount of each exempt compound.

~~(2) Determination of VOC Composite Partial Pressure~~

~~The identity and quantity of components in solvents shall be determined by SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual. The VOC composite partial pressure is calculated using the equation in paragraph (b)(57).~~

(~~3~~2) Determination of Presence of VOC in Cleaning Materials

The presence of VOC in the headspace over the cleaning material shall be determined by SCAQMD Method 313 [Determination of Presence of Volatile Organic Compounds (VOC) in a Headspace] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

The presence of VOC in liquid cleaning materials shall be determined by SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

(~~4~~3) Determination of Efficiency of Emission Control System

(A) The capture efficiency of ~~the collection device of the~~ an emission control system as specified in subparagraph (c)(5)(A) shall be determined by ~~the USEPA method cited in 55 Federal Register 26865, June 29, 1990, or any other alternative method approved by the United States Environmental Protection Agency, the California Air Resources Board, and the District.~~verifying the use of a Permanent Total Enclosure (PTE) and 100% capture efficiency as defined by USEPA Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if a USEPA Method 204 defined PTE is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the USEPA

technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the USEPA technical guidelines shall be determined by:

(i) The Temporary Total Enclosure (TTE) approach of USEPA Methods 204 through 204F, June 4, 1997; or

(ii) The District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995.

(B) The control equipment efficiency of ~~the control device of the~~ an emission control system as specified in subparagraph (c)(5)(A), on a mass emissions basis, and the VOC concentrations~~content~~ in the ~~control device~~ exhaust gases, measured and calculated as carbon, shall be determined by USEPA Test Methods 25, 25A, ~~or~~ SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon), or SCAQMD Method 25.3 (Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources), as applicable. USEPA Test Method 18, or ARB Method 422 shall be used to determine emissions of exempt compounds.

(~~5~~4) Multiple Test Methods

When more than one test method or set of test methods is specified for any testing, 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 this rule.

(~~6~~5) All test methods referenced in this section shall be the most recently approved version.

(g) Rule 442 Applicability

Any solvent, solvent cleaning activity, solvent cleaning unit operation, or person, which is exempt from all or a portion of this rule except paragraph (c)(6), shall be subject to the applicable requirements of the applicable Regulation XI source specific rule or Rule 442 - Usage of Solvent.

(h) Exemptions

(1) The provisions of this rule, except (c)(1), Solvent Requirements, shall not apply to cleaning operations using a solvent containing no more than 25 grams

of VOC per liter of material, provided that, if the Executive Officer determines that a person has violated any provision of paragraph (c)(1), Solvent Requirements, then for a period of three years following such violation, paragraph (c)(6), Recordkeeping Requirements, shall apply to the facility at which the violation occurred.

(2) The following solvent cleaning operations or activities are not subject to any provision of this rule:

(A) Cleaning carried out in batch loaded cold cleaners, vapor degreasers, conveyorized degreasers, or motion picture film cleaning equipment.

(B) Cleaning operations subject to Rule 1102 – Petroleum Solvent Dry Cleaners, and Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Operations.

(C) Cleaning operations subject to Rule 1164 – Semiconductor Manufacturing.

(D) Cleaning operations subject to Rule 1124 – Aerospace Assembly and Component Manufacturing Operations, except coating application equipment cleaning, and storage and disposal of VOC-containing materials used in solvent cleaning operations.

(E) Cleaning operations subject to Rule 1141 – Control of Volatile Organic Compound Emissions from Resin Manufacturing, and Rule 1141.1 – Coatings and Ink Manufacturing.

(F) Janitorial cleaning, including graffiti removal.

(G) Stripping of cured coatings, cured ink, or cured adhesives.

(H) Until June 30, 2005, the cleaning of architectural coating application equipment provided that the clean-up solvent used does not exceed 950 grams of VOC per liter. Effective July 1, 2005, such cleaning shall be performed in accordance with all provisions of the rule.

(3) Provisions of paragraph (c)(1) shall not apply to the following applications:

(A) Cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics.

(B) Cleaning conducted with: performance laboratory tests on coatings, adhesives, or inks; research and development programs; and laboratory tests in quality assurance laboratories.

(C) Cleaning of motor vehicles on application lines subject to Rule 1115 - Motor Vehicle Assembly Line Coating Operations.

(D) Cleaning of paper-based gaskets, and clutch assemblies where rubber is bonded to metal by means of an adhesive.

(E) Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics.

(F) Medical device and pharmaceutical facilities using up to 1.5 gallons per day of solvents.

(G) Until ~~June~~ December 3~~0~~1, 200~~5~~8, the cleaning of photocurable resins from stereolithography equipment and models.

(H) Until June 30, 200~~5~~6, the cleaning of ultraviolet or electron beam lamps and reflectors used for the curing of ultraviolet or electron beam ink or coatings.

(I) Cleaning of adhesive application equipment used for thin metal laminating operations provided the clean-up solvent used contains no more than 950 grams of VOC per liter.

(J) Cleaning of electronic or electrical cables provided the clean-up solvent used contains no more than 400 grams of VOC per liter.

(K) Touch up cleaning performed on printed circuit boards where surface mounted devices have already been attached provided that the solvent used contains no more than 800 grams of VOC per liter.

(4) Cleaning with aerosol products shall not be subject to the provisions of paragraph (c)(1) and paragraph (e)(1) if 160 fluid ounces or less of non-compliant aerosol products are used per day, per facility.

(5) The provisions of subparagraph (c)(1)(C) shall not apply to the following applications:

(A) Cleaning of coating and adhesive application processes utilized to manufacture transdermal drug delivery product using less than 3 gallons per day of ethyl acetate averaged over a 30 calendar day period.

(B) Cleaning of application equipment used to apply coatings on satellites and radiation effect coatings.

(C) The cleaning of electrostatic coating application equipment until June 30, 2005.

(D) The cleaning of application equipment used to apply solvent-borne fluoropolymer coatings until December 31, 2008, provided the clean-up solvent used for such cleaning contains no more than 900

grams of VOC per liter.

(6) The provisions of subparagraph (c)(1)(D) shall not apply to persons or facilities using less than 1.5 gallons per day of solvents to clean sterilization indicating ink application equipment.

(7) For the cleaning of ink application equipment used in inkjet printing, the VOC limit of 25 g/l specified in clause (c)(1)(D)(i) shall not apply until July 1, 2005.

(8) Until June 30, 2006, the provisions of subparagraph (c)(1)(D) shall not apply to the cleaning of metering rollers, dampening rollers and printing plates, provided the clean-up solvent used for such cleaning contains no more than 800 grams of VOC per liter.

(~~8~~9) Provisions of paragraph (e)(1) shall not apply to the following:

(A) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.

(B) Cleaning with spray bottles or containers described in subparagraph (c)(2)(B).

(C) Printing operations where the roller or blanket wash is applied automatically.

(~~9~~10) The provisions of this rule shall not apply to cleaning operations in printing pre-press or graphic arts pre-press areas, including the cleaning of film processors, color scanners, plate processors, film cleaning, and plate cleaning.