

TABLE 1

VOC LIMITS

Grams Per Liter of Coating,
Less Water and Exempt Compounds

COATING	On and After January 1, 1992		On and After January 1, 1993		On and After January 1, 1997	
	g/L	lb/gal	g/L	lb/gal	g/L	lb/gal
Pretreatment	780	6.5	780	6.5	780	6.5
Precoat	660	5.5	**	**	**	**
Primer/Primer Surfacer/ Primer Sealer	250	2.1	250	2.1	250	2.1
Topcoats						
General	340	2.8	340	2.8	340	2.8
Metallic/iridescent	420*	3.5*	420	3.5	340*	2.8*
Multi-Colored	685	5.7	685	5.7	685	5.7
Multistage	420*	3.5*	340*	2.8*	340*	2.8*
Extreme Performance	420	3.5	**	**	**	**
Specialty Coating	840	7.0	840	7.0	840	7.0

* Metallic/iridescent topcoat and Multistage topcoat system VOC content limits do not apply to spot repairs of Group I vehicles and mobile equipment. The use of Metallic/iridescent topcoats and Multistage topcoat systems in spot repairs on Group I vehicles and mobile equipment shall be subject to the VOC content limits of subparagraph (c)(1)(B).

** On and after January 1, 1995, the "precoat" and "extreme performance" topcoat categories shall be deemed eliminated from the rule.

(B) Group II Vehicles

A person who applies coatings to Group II vehicles, or their parts or components, shall not apply a coating which has a VOC content in excess of the limits in Table 2.

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TABLE 2

VOC LIMITS

Grams Per Liter of Coating,
Less Water and Exempt Compounds.

COATING	On and After July 1, 1993		On and After January 1, 1995		On and After January 1, 1997	
	g/L	lb/gal	g/L	lb/gal	g/L	lb/gal
Pretreatment	780	6.5	780	6.5	780	6.5
Precoat	660	5.5	*	*	*	*
Primer/Primer Surfacer	250	2.1	250	2.1	250	2.1
Primer Sealer	420	3.5	420	3.5	340	2.8
Topcoats						
General	480	4.0	420**	3.5**	420	3.5
Metallic/iridescent	520	4.3	520	4.3	420	3.5
Multi-Colored	685	5.7	685	5.7	685	5.7
Multistage System	540	4.5	420**	3.5**	420	3.5
Multi-Colored Multistage			480	4.0	420	3.5
Specialty Coating	840	7.0	840	7.0	840	7.0

* On and after January 1, 1995, the "precoat" category shall be deemed eliminated from the rule.

** The January 1, 1995, topcoat system VOC limits shall not apply to spot repairs on pre-1986 model year Group II Vehicles until January 1, 1996. The July 1, 1993 topcoat system VOC shall apply to spot repairs of pre-1986 model year Group II Vehicles until and including December 31, 1995.

(2) Exempt Compounds

A person shall not apply a coating which contains any Group II exempt compounds as defined in Rule 102 listed in subparagraph (b)(12)(B) except for methylene chloride, and carbon tetrachloride, perchloroethylene, cyclic, branched, or linear, completely methylated, siloxanes (VMS), or parachlorobenzotrifluoride (PCBT).

(3) Carcinogenic Materials

On and after the effective dates specified below for the applicable coatings, no person shall apply the coatings in which cadmium or hexavalent chromium was introduced as a pigment or as an agent to impart any property or characteristic to the coatings during manufacturing, distribution, or use of the applicable coatings.

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EFFECTIVE DATES COATINGS

July 1, 1995 Pretreatment, primer, primer surfacer, primer sealer, specialty coatings.

July 1, 1996 Topcoats

(4) Transfer Efficiency

(A) A person shall not apply coatings except by the use of one of the following methods:

- (i) electrostatic application, or
- (ii) high-volume, low-pressure (HVLP) spray, or
- (iii) such other coating application methods as are demonstrated, in accordance with the provisions of subparagraph (f)(1)(E), to be capable of achieving equivalent or better transfer efficiency than the coating application method listed in clause (c)(4)(A)(ii), and for which written approval of the Executive Officer has been obtained.

(B) A person shall not apply coatings by any of the methods listed in subparagraph (c)(4)(A) unless the coating is applied with properly operating equipment, operated according to procedures recommended by the manufacturer.

(5) Solvent Cleaning Operations, Storage and Disposal of VOC-containing Materials

Solvent cleaning of application equipment, parts, products, tools, machinery, equipment, general work areas, and the storage and disposal of VOC-containing materials used in cleaning operations shall be carried out pursuant to Rule 1171 - Solvent Cleaning Operations.

(6) Approved Emission Control System

A person may comply with the provisions of paragraph (c)(1), by using an approved emission control system, consisting of collection and control devices, which is approved, in writing, by the Executive Officer for reducing emissions of VOC. The Executive Officer shall approve such emission control system only if the VOC emissions resulting from the use of non-compliant coatings will be reduced to a level equivalent to or lower than that which would have been achieved by the compliance with the terms of paragraph (c)(1).

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The required efficiency of an emission control system at which an equivalent or greater level of VOC emission reduction will be achieved shall be calculated by the following equation:

$$C.E. = \left[1 - \frac{(VOC_{LW})}{(VOC_{LW_{Max}})} \times \frac{1 - (VOC_{LW_{Max}}/D_{nMax})}{1 - (VOC_{LW}/D_j)} \right] \times 100$$

Where:

C.E. = Control Efficiency, percent

VOC_{LW} = VOC Limit of Rule 1151, less water and less exempt compounds, pursuant to paragraph (c)(1).

$VOC_{LW_{Max}}$ = Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and exempt compounds.

D_{nMax} = Density of VOC solvent, reducer, or thinner contained in the non-compliant coating containing the maximum VOC.

D_e = Density of corresponding VOC solvent, reducer, or thinner used in the compliant coating system = 880 g/L.

(7) Alternative Emission Control Plan

A person may comply with the provisions of paragraph (c)(1) by means of an Alternative Emission Control Plan (AECPP), pursuant to Rule 108.

(d) Prohibition of Specification and Sale

- (1) No person shall solicit from, or require any other person to use in the District any coating which, when applied as supplied or thinned or reduced according to the manufacturer's recommendation for application, does not meet the applicable VOC limits required by paragraph (c)(1) for the specific application, or does not meet the requirements of paragraphs (c)(2) or (c)(3).
- (2) On and after July 1, 1995, no person shall offer for sale, sell, or distribute directly to an end-user for use in the District any coating which, when applied

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as supplied or thinned or reduced according to the manufacturer's recommendation for application, does not meet the applicable VOC limits required by paragraph (c)(1) for the specific application, or does not meet the requirements of paragraphs (c)(2) or (c)(3).

- (3) No person shall solicit from, require, offer for sale to, sell to, or distribute to any other person for use in the District any coating application equipment which does not meet the requirements of subparagraph (c)(4)(A).

- (4) No person shall offer for sale, sell, or distribute an HVLP spray gun unless the person offering for sale, selling, or distributing the HVLP spray gun provides accurate information to the spray gun recipient on the maximum inlet air pressure to the spray gun which would result in a maximum 10 pounds per square inch gauge air pressure measured dynamically at the center of the air cap and the air horns. The information shall be permanently marked on the gun, or provided on the company's letterhead or in the form of technical literature which clearly identifies the spray gun manufacturer, the salesperson, or the distributor.

- (5) The requirements of paragraphs (d)(1), (d)(2), (d)(3) or (d)(4) shall apply to all written or oral agreements executed and entered into under the terms of which a coating or a coating application equipment shall be used at any location within the District.

(e) Recordkeeping Requirements

- (1) Recordkeeping for VOC Emissions

Records of coating usage shall be maintained pursuant to Rule 109.

- (2) Recordkeeping for Emission Control Systems

Any person using an emission control system as a means of complying with the provisions of paragraph (c)(1) shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission producing activities. Key system operating parameters are those necessary to ensure compliance with VOC limits. The parameters include, but are not limited to, temperatures, pressures, and flowrates.

(f) Test Methods

- (1) Methods of Analysis

For the purpose of this rule, the following test methods shall be used:

- (A) VOC Content of Coatings

The VOC content of coatings shall be determined by the methods specified in clauses (f)(1)(A)(i) or (f)(1)(A)(ii):

- (i) United States Environmental Protection Agency ("USEPA") Reference Method 24, (Title 40 Code of Federal Regulations, Part 60, Appendix A). The exempt compounds content shall be determined by SCAQMD Method 303 (Determination of Exempt Compounds) contained in the SCAQMD "Laboratory Method of Analysis for Enforcement Samples" manual, or
- (ii) SCAQMD Method 304 [Determination of Volatile Organic Compounds (VOCs) in Various Materials] contained in the SCAQMD "Laboratory Method of Analysis for Enforcement Samples" manual.
- (iii) 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 paragraph (c)(1), only at such time as manufacturers specify which individual compounds are used in the formulation of the coatings and identify the test methods, which have been approved by the United States Environmental Protection Agency and the District prior to such analysis, that can be used to quantify the amount of each exempt compound.

- (B) Determination of Iridescent Particles in Metallic/Iridescent Topcoat

The metal and silicon content of metallic/iridescent topcoat shall be determined by SCAQMD Method 311 (Determination of Percent Metal

- in Metallic Coatings by Spectrographic Method) contained in the SCAQMD "Laboratory Method of Analysis for Enforcement Samples" manual.
- (C) Acid Content in Pretreatment Coatings
The acid content of pretreatment coatings shall be determined by ASTM Test Method D1613.
- (D) Reflectance of Anti-Glare Safety Coatings
The reflectance of anti-glare safety coatings shall be measured by ASTM Test Method D-523.
- (E) Transfer Efficiency
The transfer efficiency of alternative coating application methods, as defined by clause (c)(4)(A)(iii), shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989."
- (F) Equivalent Test Methods
Other test methods determined to be equivalent after review by the staffs of the District, California Air Resources Board ("ARB"), and the United States Environmental Protection Agency, and approved in writing by the District Executive Officer may also be used for methods of analysis.
- (2) Determination of Efficiency of Emission Control Systems
- (A) The efficiency of the collection device of an emission control system as specified in paragraph (c)(6) shall be determined by the methods specified in clauses (i)(2)(A)(i), (i)(2)(A)(ii), or (i)(2)(A)(iii).
- (i) USEPA method cited in 55 Federal Register (FR) 26865, June 29, 1990; or
- (ii) SCAQMD's "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency", or
- (iii) any other method approved by the United States Environmental Protection Agency, the California Air Resources Board, and the District Executive Officer.
- (B) The efficiency of the control device of an emission control system as specified in paragraph (c)(6) and the VOC content in the control device exhaust gases, measured and calculated as carbon, shall be determined

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- by USEPA Test Methods 25, 25A, or SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon) as applicable. USEPA Test Method 18, or ARB Method 422 shall be used to determine emissions of exempt compounds.
- (3) Multiple Test Methods
When more than one test method or set of test methods are 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 the rule.
- (6) Rule 442 Applicability
Any coating operation, subject to this rule which is exempt from all or a portion of the VOC limits of this rule shall comply with the provisions of Rule 442.
- (h) Qualification for Classification as an Extreme-Performance Topcoat
A topcoat is an extreme-performance topcoat if it is to be applied on Group I vehicles and equipment and will be exposed to any of the following:
- (1) industrial grade detergents, cleaners, or abrasive scouring agents; or
- (2) other similar environmental conditions as determined by the Executive Officer and approved by the Air Resources Board and the U.S. Environmental Protection Agency.
- A topcoat may be classified as an extreme-performance topcoat provided that the applicator requests and receives written approval of such classification from the Executive Officer prior to the application of such topcoat, and shows that the intended use of each topcoated Group I vehicle and equipment would require coating with an extreme-performance topcoat.
- (i) Exemptions
- (1) The provisions of paragraphs (c)(1) and (c)(4) of this rule shall not apply to:
- (A) touch-up coatings.
- (B) stencil coatings.

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- (2) The prohibition specified in subdivision (d) shall not apply to coatings or spray equipment which will be used solely outside of the District.
- (3) The prohibition specified in paragraphs (d)(1) or (d)(2) shall not apply to persons offering for sale to, selling to, distributing to, or requiring other persons who are operating an approved emission control system under paragraph (c)(6), or complying under paragraph (c)(7), or operating pursuant to paragraph (i)(4).
- (4) The requirements of paragraph (c)(1) shall not apply to coatings applied for educational purposes at coating training centers, which are owned and operated by coating manufacturers, provided that the VOC emissions emitted at a coating training center from coatings not complying with paragraph (c)(1) do not exceed twelve (12) pounds per day.
- (5) The provisions of this rule shall not apply to aerosol coating products.

(Adopted August 2, 1991)(Amended May 12, 1995)(Amended September 13, 1996)

March 4, 1997

(PA1117)

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) and stratospheric ozone-depleting or global-warming compounds from solvent cleaning operations and activities, and from the storage and disposal of these materials used in solvent cleaning. This rule applies to all persons who use VOC-containing 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 VOC-containing materials used in solvent cleaning.

(b) Definitions

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

- (1) AEROSOL PRODUCT is a hand-held, nonrefillable 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) CLEAN AIR SOLVENTS are as defined in Rule 102. VOC-containing material used to perform solvent cleaning, solvent finishing, or surface preparation operations or activities, which:
 - (A) Contains no more than fifty (50) grams of VOC per liter of material, as applied;
 - (B) Has a VOC composite partial vapor pressure less than 5 mm Hg at 20°C (68°F);
 - (C) Releases to form ozone at a rate not exceeding that of toluene;
 - (D) Contains no compounds classified as Hazardous Air Pollutants (HAPs) by the Federal Clean Air Act, or Ozone Depleting

Compounds (DBCs) and Global Warming Compounds (GWCs) as defined by the District, and

(E) ~~Has been certified by the District to meet the criteria stated in (4) through (D) according to test methods and procedures approved by the District.~~

- (5) 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.
- (6) CURED COATINGS, CURED INKS, AND CURED ADHESIVES are coatings, inks, and adhesives which are dry to the touch.
- (7) ELECTRICAL APPARATUS COMPONENTS are all internal components such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in apparatus that generates or transmits electrical energy including generators, transformers, and electric motors.
- (8) ELECTRONIC COMPONENTS are all portions 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.
- (9) EXEMPT COMPOUNDS are as defined in Rule 102.
- (10) 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.
- (11) FLEXOGRAPHIC PRINTING is the method in which the image area is raised relative to the nonimage area and utilizes flexible rubber or other elastomeric plate and rapid drying liquid inks.
- (12) 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: W_s = Weight of volatile compounds in grams
 W_w = Weight of water in grams

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W_{es} = Weight of exempt compounds in grams
 V_m = Volume of material in liters

- (13) GRAPHIC ARTS are all gravure, letterpress, flexographic, and lithographic printing processes.
- (14) 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.
- (15) HIGH PRECISION OPTICS are optical elements used in electro-optical devices and are designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.
- (16) INSTITUTIONAL CLEANING refers to cleaning activities conducted at organizations, societies, or corporations including, but not limited to schools, hospitals, sanitariums, and prisons.
- (17) JANITORIAL CLEANING is the cleaning of building or facility components, such as the floors, ceilings, walls, windows, doors, stairs, bathrooms, etc.
- (18) LETTERPRESS PRINTING is the method in which the image area is raised relative to the nonimage area and the ink is transferred to the paper directly from the image surface.
- (19) 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.
- (20) 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.
- (21) LITHOGRAPHIC PRINTING is a plane-o-graphic method in which the image and nonimage areas are on the same plane.
- (22) MAINTENANCE CLEANING is a solvent cleaning operation or activity carried out to keep tools, machinery, equipment excluding application equipment, or general work areas in clean and good operational condition.
- (23) MANUFACTURING PROCESS is the process of making goods or articles by hand or by machinery.
- (24) 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:

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- (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.
- (25) NON-ABSORBENT CONTAINERS are containers made of nonporous material which do not allow the migration of the liquid solvent through them.
- (26) 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.
- (27) NON-LEAKING CONTAINERS are containers without liquid leaks.
- (28) 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.
- (29) PRINTING in the graphic arts is any operation that imparts color, design, alphabet, or numerals on a substrate.
- (30) 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.
- (31) REPAIR CLEANING is a solvent cleaning operation or activity carried out during a repair process.
- (32) REPAIR PROCESS is the process of returning a damaged object or an object not operating properly to good condition.
- (33) SCIENTIFIC INSTRUMENTS are instruments (including the components, assemblies, and subassemblies used in their manufacture) and associated accessories and reagents which are used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.
- (34) 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.
- (35) SOLVENT is a VOC-containing liquid used to perform solvent cleaning.
- (36) 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.
- (37) 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.
- (38) SPECIALTY FLEXOGRAPHIC PRINTING is flexographic printing on polyethylene or polypropylene food packaging, fertilizer bags, or liquid-tight food containers.
- (39) STERILIZATION INDICATING INKS are inks that change color to indicate that sterilization has occurred. Such inks are used to monitor the sterilization of medical instruments, autoclave efficiency, and the thermal processing of foods for prevention of spoilage.
- (40) STRIPPING is the removal of cured coatings, cured inks, and cured adhesives.
- (41) SURFACE PREPARATION is the removal of contaminants such as dust, soil, oil, grease, etc., prior to coating, adhesive, or ink applications.
- (42) ULTRAVIOLET INKS are inks which dry by polymerization reaction induced by ultraviolet energy.
- (43) 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:

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

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_e = 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

(44) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(45) 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 unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS		Effective 1/1/1997		Effective 1/1/1999	
	VOC g/l (lb/gal)	VOC Composite Partial Pressure mm Hg @ 20°C (68°F)	VOC g/l (lb/gal)	VOC Composite Partial Pressure mm Hg @ 20°C (68°F)	VOC g/l (lb/gal)	VOC Composite Partial Pressure mm Hg @ 20°C (68°F)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application						
(i) General	70					
(ii) Electronic Components or Medical Devices	900 (0.38)	33				
(B) Repair and Maintenance Cleaning						
(i) General	900 (0.38)	20			50 (0.42)	
(ii) Electrical Apparatus Components	900 (0.38)	20				
(iii) Medical Devices	900 (0.38)	33				
(C) Cleaning of Coatings, or Adhesives Application Equipment	950 (7.9)	35				
(D) Cleaning of Ink Application Equipment						
(i) General	100 (0.83)	3				
(ii) Flexographic or Gravure Printing	100 (0.83)	3				
(iii) Lithographic or Letter Press Printing	900 (7.5)	25				10
(iv) Screen Printing	1070 (8.9)	5				
(v) Ultraviolet Inks (except screen printing)	800 (6.7)	33				
(vi) Specialty Flexographic Printing	810 (6.8)	21				
(E) Cleaning of Polyester Resin Application Equipment	200 (1.7)		50 (0.42)			
or		1				

(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 nonoperation 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

Regardless of Rule 1122 requirements, any person owning or operating a remote reservoir cleaner shall comply with all of the following requirements in addition to the VOC limits for repair and maintenance cleaning specified in clause (c)(1)(B)(i):

- (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) Clean Air Solvent Certificate

A manufacturer, distributor, or person may apply for a Clean Air Solvent Certificate for a specific product or class of products that meets the requirements for a Clean Air Solvent.

(A) The application shall contain all relevant information to support the technical basis for designation as a Clean Air Solvent.

(B) The Executive Officer will issue a certificate for a Clean Air Solvent if it is determined that the specific product or class of products meets the requirements of Clean Air Solvents as defined in paragraph (b)(4) Rule 102.

A Clean Air Solvent Certificate shall be valid for five years from the date of issuance and shall be renewed upon the Executive Officer's determination that the product(s) continues to meet the criteria for a Clean Air Solvent. However, the Executive Officer may revoke such Certificate if it is determined that the specific product or class of products does not meet the requirements of Clean Air Solvents as defined in paragraph Rule 102 (b)(4).

(7) Recordkeeping Requirements

Records shall be maintained pursuant to Rule 109 for all applications subject to this rule, including those exempted under section (h), except the following:

(A) Facilities not subject to recordkeeping requirements from any other Regulation XI rules.

(B) Cleaning performed with a solvent which has a water content of 98 percent or more, by weight, or a VOC composite partial pressure of 0.1 mm Hg or less at 20°C (68°F), or contains VOC consisting of more than 12 carbon atoms.

(d) Air Quality Management Plan (AQMP) Technology Assessment

By the year 2000, the District will perform a Technology Assessment to determine whether additional reductions from solvent cleaning operations are feasible or necessary in order to achieve the objectives of the AQMP.

(e) General Prohibitions

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(1) A person shall not atomize any solvent unless it is vented to 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) On and after January 1, 1997, a person shall not perform solvent cleaning activities or operations subject to the provisions of this rule with a solvent which contains Group II exempt compounds listed in Rule 102 except methylene chloride, perchlorobenzotrifluoride (PCBTf), and cyclic, branched, or linear, completely methylated siloxanes (VMS), and perchloroethylene.

(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;

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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)(43).

(3) 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) Determination of Efficiency of Emission Control System

(A) The efficiency of the collection device of the 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.

(B) The efficiency of the control device of the emission control system as specified in subparagraph (c)(5)(A) and the VOC 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) as applicable. USEPA Test Method 18, or ARB Method 422 shall be used to determine emissions of exempt compounds.

(5) 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) 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)(7), 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 following solvent cleaning operations or activities are not subject to any provision of this rule:

(A) Cleaning carried out in batch-loaded cold cleaners, open-top vapor degreasers, conveyorized degreasers, or film cleaning machines which are regulated under Rule 1122 - Solvent Degreasers.

(B) Cleaning operations subject to Rules 1102 - Petroleum Solvent Dry Cleaners, and 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 and institutional cleaning, including graffiti removal.
 - (G) Stripping of cured coatings, cured adhesives, and cured inks.
 - (H) Cleaning operations using solvents with a water content of 98% or more, by weight.
 - (I) Cleaning operations using only Clean Air Solvents specified in a valid Clean Air Solvent Certificate.
- (2) Provisions of paragraph (c)(1) shall not apply when carried out for any of the following applications:
- (A) Cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics.
 - (B) Cleaning for: conducting performance laboratory tests on coatings, adhesives, or inks; research and development programs; and laboratory tests in quality assurance laboratories.
 - (C) Cleaning of polycarbonate plastics.
 - (D) Cleaning of motor vehicles on application lines subject to Rule 1115 - Motor Vehicle Assembly Line Coating Operations.
- (3) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with spray bottles or containers described in subparagraph (c)(2)(B), are not subject to the provisions of paragraph (c)(1).
- (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 aerosol product are used per day, per facility.
- (5) Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics shall not be subject to paragraph (c)(1).
- (6) Medical device and pharmaceutical facilities may use up to 1.5 gallons per day of solvents that are not in compliance with paragraph (c)(1).
- (7) The provisions of subparagraph (c)(1)(C) shall not apply to 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.

- (8) The provisions of subparagraph (c)(1)(D) shall not apply to persons facilities using less than 1.5 gallons per day of solvents to clean sterilization indicating ink application equipment.
- (9) The requirements of clause (c)(1)(B)(i) shall not apply until January 1, 2001, for field handwipe cleaning operations, provided solvent cleaning products containing no more than 900 grams of VOCs per liter with a VOC composite partial pressure of 20 mm Hg at 68°F are used for field handwipe cleaning operations until such time. Field handwipe cleaning operations means cleaning operations conducted in areas located at least 1000 feet outside the operator's facility boundary, for the repair of mobile equipment, non-road equipment, and other internal combustion engine driven equipment including, but not limited to, buses, trucks, tractors, forklifts, pumps, and heavy-duty construction equipment.

(Adopted Oct. 5, 1979)(Amended March 7, 1980)(Amended July 11, 1980)
(Amended Sept. 10, 1982)(Amended July 12, 1985)(Amended August 1, 1986)
(Amended Dec. 2, 1988)(Amended June 28, 1990)(Amended May 3, 1991)
(Amended December 7, 1995)

March 4, 1996
(PART 1302)

PROPOSED AMENDED RULE 1302. DEFINITIONS

- (a) **ACTUAL EMISSIONS** means the emissions of a pollutant from an affected source determined by taking into account actual emission rates and actual or representative production rates (i.e., capacity utilization and hours of operation).
- (b) **AIR CONTAMINANT** means any air pollutant for which there is a national ambient air quality standard, or precursor to such air pollutant, including but not limited to: carbon monoxide, sulfur dioxide, nitrogen oxides, particulate matter, lead compounds and volatile organic compounds.
- (c) **ALLOWABLE EMISSIONS** means the emissions rate of a stationary source calculated using the maximum rated capacity of the source, unless the source is subject to federally enforceable limits which restrict the operation rate, or hours of operation, or both, and the most stringent of the following: (1) the applicable standards set forth in 40 CFR Part 60 or 61; (2) any applicable SIP emissions limitation including those with a future compliance date; or (3) the emissions rate specified as federally enforceable permit conditions including those with a future compliance date.
- (d) **BANKING** means the process of recognizing and certifying emission reductions and the registering transaction involving Emission Reduction Credits.
- (e) **BASIN** means the South Coast Air Basin or the nonattainment Planning Area of the Riverside County portion of the Southeast Desert Air Basin (SEDAB), or the remaining portion of the Riverside County SEDAB area, or the Los Angeles County SEDAB area within the South Coast Air Quality Management District (District). The boundaries of each air basin shall be as defined by the California Air Resources Board.

Rule 1302 (Cont.)

(Amended December 7, 1995)

- (f) **BEST AVAILABLE CONTROL TECHNOLOGY (BACT)** means the most stringent emission limitation or control technique which:
 - (1) has been achieved in practice for such category or class of source; or
 - (2) is contained in any state implementation plan (SIP) approved by the United States Environmental Protection Agency (EPA) for such category or class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed source demonstrates to the satisfaction of the Executive Officer or designee that such limitation or control technique is not presently achievable; or
 - (3) is any other emission limitation or control technique, found by the Executive Officer or designee to be technologically feasible for such class or category of sources or for a specific source, and cost-effective as compared to measures as listed in the Air Quality Management Plan (AQMP) or rules adopted by the District Governing Board.
- (g) **BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY** means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.
- (h) **COGENERATION PROJECT** means a project which:
 - (1) makes sequential use of exhaust steam, waste steam, heat or resultant energy from an industrial, commercial, or manufacturing plant or process for the generation of electricity; or
 - (2) makes sequential use of exhaust steam, waste steam, or heat from a thermal power plant, in an industrial, commercial, or manufacturing plant or process.For the purposes of this definition, the "industrial, commercial or manufacturing plant or process" shall not be a thermal power plant or portion thereof. A cogeneration project shall not consist of steam or heat developed solely for electrical power generation. To qualify as a cogeneration project, the processes listed in (1) and (2) above must meet the conditions specified in Public Resources Code Section 25134.
- (i) **EMISSION LIMITATION** is a federally enforceable permit condition limiting emissions from a discrete operation, unit or other pollutant emitting source.